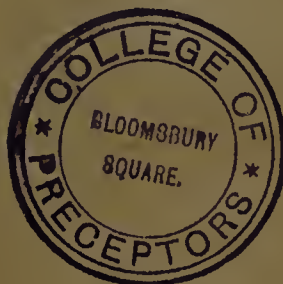


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THE EDUCATIONAL TIMES,

AND

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JANUARY 1, 1893.

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COLLEGE OF PRECEPTORS.—

The Half-Yearly General Meeting of the Members of the Corporation will be held at the College, Bloomsbury Square, W.C., on Saturday, the 21st of January, at 2 p.m.
C. R. HODGSON, B.A., *Secretary*.

COLLEGE OF PRECEPTORS.—

ANNUAL DINNER (1893).

The Dinner will take place at Frascati's Restaurant, 32 Oxford Street, on January 21st, at 5.30 p.m. Ladies and Gentlemen who are Members of the College may obtain tickets (5s. each) up to January 21st, on application to the Secretary, College of Preceptors, Bloomsbury Square, W.C. Every Member has the privilege of introducing one friend, for whom a ticket must be obtained on or before January 18th.

Evening dress is not requisite.

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COLLEGE OF PRECEPTORS.—

EXAMINATIONS FOR 1893.

1. DIPLOMAS. — The Midsummer Examination of Teachers for the Diplomas of the College will commence on the 4th of July, and the Christmas Examination on the 2nd of January, 1894.

2. CERTIFICATE EXAMINATIONS. — The Midsummer Examination for Certificates will commence on the 13th of June, and the Christmas Examination on the 5th of December.

N.B.—The Higher Certificates of the College are recognised by Her Majesty's Judges, and by the General Medical Council, as guarantees of good general education; and consequently the holders of them, who may be intended for the Legal and Medical Professions, are exempted from the necessity of submitting to the Preliminary Literary Examinations held by the Incorporated Law Society, and by the various Medical Corporations of the United Kingdom. The Lords of the Committee of Council on Education admit the holders of the same Certificates, without further examination, to the Competition for allowances granted to Students of the Junior Training Class of the National Art Training School. All the College Certificates above the Third Class which include Latin are also recognised by the Pharmaceutical Society of Great Britain.

3. EXAMINATIONS FOR CERTIFICATES OF PROFICIENCY IN MERCANTILE SUBJECTS.—The next Examination will take place on the 12th of June.

4. PROFESSIONAL PRELIMINARY EXAMINATIONS.—These Examinations are held in March and September. The next Examination will commence on the 7th of March.

5. INSPECTION OF SCHOOLS.—Visiting Examiners are appointed by the College for the Inspection and Examination of Public and Private Schools.

PRIZES.

Diploma Examination.—In addition to the Doreck Scholarship of £20, the following Prizes will be competed for: Theory and Practice of Education, £10; Classics (Greek and Latin), £5; Mathematics, £5; Natural Science, £5.

Certificate Examination.—The "Isbister Prize" will be awarded to the Candidate who stands First, and the "Pinches Memorial Prize" to the Candidate who stands Second in General Proficiency. Prizes of Books will also be awarded to the Third and Fourth in General Proficiency, and to the First and Second in the following subjects:—Classics, Mathematics, Modern Languages, Natural Sciences, English Subjects. The "Taylor Jones Memorial Prize" will be awarded to the best Candidate in Scripture History.

The Regulations of the above Examinations can be obtained on application to the Secretary at the College, Bloomsbury Square, W.C.

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PRELIMINARY EXAMINATION of

MEDICAL STUDENTS.—The COLLEGE of PRECEPTORS will hold an Examination for Certificates recognised by the General Medical Council as qualifying for Registration as a Medical Student, on the 7th, 8th, and 9th of March.

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(b) At any school of established reputation, approved by the Council, which is prepared to offer such facilities for training as may be satisfactory to the Council; it being open to the Council to require the attendance of the scholar at such lectures on the Theory and Practice of Education, and to require him or her to pass such examinations in the Science and Art of Teaching, as the Council may determine.

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NOTICE.—The "EDUCATIONAL

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COLLEGE OF PRECEPTORS.

EVENING MEETING, DECEMBER 14TH, 1892.

The Chair having been taken by H. C. BOWEN, Esq., M.A., FOSTER WATSON, Esq., M.A., read the following paper on

RICHARD MULCASTER AND HIS "ELEMENTARIE."

THE schoolmasters mentioned by Shakspeare were Sir Hugh Evans, in the "Merry Wives of Windsor," who is identified by the critics with Thomas Jenkins, the master at Stratford School; Pinch, in the "Comedy of Errors," who is of small account, and Sir Nathaniel, and Holofernes, in "Love's Labour's Lost." Sir Nathaniel is described as "a curate"; Holofernes, however, has been accepted as the type of the pedantic and somewhat contemptible schoolmaster. The question has often been asked: Who was he? Some say John Florio, the translator of Montaigne; some say Thomas Wilson, the author of the "Art of Rhetoric." Of course, Thomas Hunt, Shakspeare's own schoolmaster, has been suggested. Finally, the subject of my lecture, Richard Mulcaster, has been pointed to as the man. The late Mr. R. H. Quick, to whom everyone who studies Mulcaster will always owe gratitude for the sumptuous reprint of the "Positions," points out that Holofernes was a pedant and a court entertainer. So, too, was Richard Mulcaster. All the biographies refer to the entries in the household accounts of Queen Elizabeth (1573-76), in which Mulcaster is paid for the presentation of plays, by his boys, before her majesty.

It is not worth while to pursue the discussion here. Richard Mulcaster is a man of another race from Holofernes, even if, as has so often been said, Armado's description fits him well: "I protest the schoolmaster is exceeding fantastical—too, too vain—too, too vain." This is true of Mulcaster, but it does not include the whole truth that can be said of him.

Mulcaster was born about 1530, and died 1611. He came of a good Cumberland family—and, as he was not loath to make known, was "esquire born." He was educated at Eton, with Robert Ascham as a schoolfellow, under the redoubtable Nicholas Udal, who has gained so much notice for the fifty-three stripes he once gave Tusser, the writer on husbandry. From Eton he went to King's College, Cambridge. Thence he migrated to Oxford, and in 1555 was elected student of Christchurch. In 1558, the year of Elizabeth's accession, he commenced schoolmaster, and in 1561 was appointed first headmaster of Merchant Taylors'

School at Laurence Pountney Hill.* He continued in this post for twenty-five years. During this period he had many bad quarters-of-an-hour with his governors, and on one occasion he confessed before the court of the Company that he had spoken "merely of choler." When he left, it was in not unjustified high spirit at the treatment with which he had met on applying for his salary to be kept up to the amount it reached formerly, when a Mr. Hills had, out of his own pocket, annually handed over £10 a year to Mulcaster. When Mulcaster ineffectually asks the Company to supply the £10 themselves in future, away he runs and flings the words after him: "*Servus fidelis, perpetuus asinus.*"

From 1586 to 1596, Mulcaster is said to have been surmaster at St. Paul's. At any rate, from 1596 to 1598 he was headmaster. He became rector of Stanford Rivers, in Essex, in 1598, and died in 1611. A writer in the *Gentleman's Magazine* (1800, Vol. LXX., Part 1, p. 421) gives the epitaph to Mulcaster's wife: "A grave woman, a loving wife, a careful nurse, a godly creature, a saint in heaven." In *Notes and Queries* (Second Series, Vol. VIII., p. 219), Mr. C. J. Robinson gives the names of his children, Silvan, Peter, Katharine, but there would seem to have been other daughters, from the marriage registers.

Let us turn from his domestic circle to Mulcaster the schoolmaster. Thomas Fuller describes him and his teaching in his own quaint language:—

"In a morning he would exactly and plainly construe and parse the lessons to his scholars, which done, he slept his hour (custom made him critical to proportion it) in his desk in the school, but woe be to the scholar that slept the while. Awaking, he heard them accurately; and Atropos might be persuaded to pity as soon as he to pardon when he found just fault. The prayers of cockering mothers prevailed with him as much as the requests of indulgent fathers, rather increasing than mitigating his severity on their offending child."

If report speaks true, Mulcaster indeed did not spare the rod. The following, slightly altered, comes from a law-student's commonplace-book, probably belonging to one Thomas Wateridge, of the (Middle) Temple, in the time of James I. (*Notes and Queries*, Series I., Vol. XI., p. 260):—

"Of Monckaster, the famous Paedagogue. [The spelling of Mulcaster's name is almost as varied as that of Shakspeare.]—Monckaster was held to be a good schoolmaster, and yet he was somewhat too severe, and givē to insult too much over children that he taught. He beeing one day about whippinge a boy . . . out of his insulting humour, he stood pausing a little . . . and then a merry conceyt taking him, he said: 'I a-ke ye banes of matrimony between this boy . . . of such a parish, on y^e one side, and Lady Burch, of y^{is} parish, on the other side; and if any man can shewe any lawfull cause why y^{er} should not be joynd together, let y^m speake, for y^{is} is y^e last time of askinge.' A good sturdy boy, and of a quick conceyt, stood up, and sayd: 'Master, I forbid y^e banes.' The master, taking this in dudgeon, sayd: 'Yes, sirrah, and why so?' The boy answered: 'Bycause all partyes are not agreed'; whereat Munckaster, likinge that witty awnswer, spared the one's fault and th'other's p'sumption."

On Mulcaster's enthusiasm for his profession, and his excellence in it, every one is agreed. Mr. Quick quotes † from "Liber Famelicus," in the Camden Society's publications, the testimony of Sir James Whitelocke, one of his pupils at Merchant Taylors'. It is not to be forgotten, further, that a more distinguished man, Dr. Lancelot Andrewes (Bishop of Winchester, on whom Milton wrote an elegy)—

"showed the greatest regard for Mr. Mulcaster . . . in all companies, and always placed him at the upper end of his table, and, after his death, caused his picture (though he had but few others in his house) to be set over his study door. Besides these external marks of gratitude, he supplied his necessities privately in a very liberal manner, and left his son a valuable legacy." ‡

But Sir James Whitelocke and Bishop Lancelot Andrewes were by no means the only distinguished pupils, whom Mulcaster turned out of Merchant Taylors'. H. B. Wilson ("History of Merchant Taylors' School," Vol. I., p. 85), says:—

"Oxford and Cambridge were indebted to Mulcaster for many excellent scholars, whose literary performances were highly spoken of in their day. Hethe, Bowsfield, Thompson, Andrewes, Dove, Lodge, Gwynne, Perin, Sandys, Sutton, Buckeridge, Caesar, Buckland, Latewar, Searchfield, and Hutton, of whom four attained episcopal dignity, were the admiration of their contemporaries."

* Mulcaster is said to have won notice at the University for his knowledge of Oriental languages. The editor of Gascoyne's "Princely Pleasures" (1821 edition) says Mulcaster was appointed to Merchant Taylors' on account of his scholarship in Greek.

† In the reprint of Mulcaster's "Positions," p. 304.

‡ Alex. Chalmer's "Biog. Dict.," Article Andrewes. Vol. 2, p. 222.

Wilson includes another name in his list, but I have reserved that name for mention apart from all the others. Richard Mulcaster probably had for pupil the greatest of the Elizabethan poets, Edmund Spenser.

The Dean of St. Paul's, the well-known Dr. Nowell, had a brother, a citizen of London, Robert Nowell, a man of great munificence, especially devoted to the maintenance of poor youths. Amongst those whom he had furnished with means for their education were Richard Hooker and the Lancelot Andrewes to whom I have just referred. In the "Account Books" of Robert Nowell, which only came to light again in recent times, it appears that mourning was supplied to many boys from many schools on the occasion of Robert Nowell's death. At the head of the list of six boys from Merchant Taylors' School appears the name of Edmund Spenser. Dean Church was of opinion ("Spenser," Men of Letters Series, p. 8), that Spenser entered Merchant Taylors' probably one of the earliest pupils. He left in 1568/9 to go to Cambridge, still assisted by the family of the Nowells.

It is a remarkable fact that Edmund Spenser's first poetic flights were accomplished just on leaving school. They consisted of translations from Petrarch and from du Bellay, and were published in 1569 in a miscellany called *The Theatre of Wordlings*. That a boy just leaving Merchant Taylors' School should have taste and ability to translate from Italian and French is confirmatory of the interest we should expect to find Mulcaster showing in glorifying the use of the mother-tongue.

Mulcaster himself, it is true, wrote in Latin, and wrote very good Latin. He wrote some easy-going Latin verses to Elizabeth on her royal progress to Kenilworth in 1575.* In 1580, he prefixed commendatory verses to that remarkable school-book of Christopher Ockland, called "*Anglorum Praelia*," and in 1582, to the same writer's *Εἰρηναρχία*. In 1575, he addressed more verses to Elizabeth on her skill in music (printed in Tallis and Bird's "*Discantus Cantiones*," 1575). Here is what Ballard ("*Memoirs of British Ladies*," 1775, p. 178) quotes as a "handsome" compliment:—

"Regia majestas, aetatis gloria nostrae,
Hanc in deliciis semper habere solet;
Nec contenta graves aliorum audire labores,
Ipsa etiam egregie voce manumque canit."

"Our gracious Queen, bright glory of our age,
The pow'r of notes harmonious can engage;
Much joy she thence receives, but more conveys,
While both her voice and hand the concert raise."

Lofty neither in matter nor expression! As I am speaking of Queen Elizabeth, let me just mention here, first, that Mulcaster dedicated his greatest educational book, the "*Positions*," to his most dear and sovereign Princess, Elizabeth; secondly, that she, on her part, by her "prerogative gift," made him "parson" of Stanford Rivers; thirdly, on her death, as Mr. Quick states, Mulcaster published a Latin poem, "in which he seems quite consoled by the accession of James." I have met with a translation of six of the verses into English by Mulcaster himself (Collier: "*Bibliographical Account of Early English Literature*," p. 542). They are not worthy of Spenser's schoolmaster, but I give them as illustrating a heroic struggle to say something in English, at any cost:—

* See Gascoigne's "*Princely Pleasures of Kenilworth*" (pp. 9, 10 in reprint of 1821): "Her Majesty, proceeding towards the inner court, passed on a bridge, the which was railed in on both sides. And on the tops of the posts thereof were set sundry presents and gifts of provision: as wine, corn, fruits, fishes, fowls, instruments of music, and weapons for martial defence. All which were expounded by an actor clad like a Poet, who pronounced verses in Latin.

"Jupiter, è summi dum vertice cernit Olympi,
Huc, Princeps Regina, tuos te tendere gressus:
Scilicet eximiae succensus imagine formae,
Et memor antiqui qui semper ferverat ignis,
Siccine Coelicolae parientur turpiter (inquit)
Muneris exortem Reginam hoc visere castrum,
Quod tam laeta subit? Reliqui sensere tonantis
Imperium superi, pro se dat quisque libenter:
Musicolae Sylvanus aves; Pomonaque poma,
Fruges alma Ceres, rorantia vina Lyaeus;
Neptunus pisces, tela et tutantia Mavors:
Haec (Regina potens) superi dant munera divi:
Ipse loci dominus dat se Castrumque Kenelmi."

"These verses were devised by Master Muncaster."

"As good Elizabeth raignes most happie now in heaven,
So happy may King James raigne long with us on earth;
And as she did avoid the Jesuites' treacherous traines,
Whereby she got her grave in dire and quiet death,
So good King James goe late to God, and slip their snares;
For if thou stick'st to God, they'll not sticke to sticke thee."

Here we see Mulcaster at his very worst. He has forgotten his metre, and writes the atrocious pun on "stick." Yet Collier, while recognising the faults, would have us observe that these lines are interesting, as one of the early specimens of English blank verse prior to Milton.

Notwithstanding the meagre fruits vouchsafed to Mulcaster's poetic efforts, he may have been stimulating to the boy Spenser. Dean Church quotes approvingly, from Warton, that Mulcaster* probably gave special attention to the teaching of English. We are absolutely sure that a delight in writing English would be encouraged. But more as to this presently.

Is it fanciful to imagine that Edmund Spenser felt the influence of his schoolmaster, Richard Mulcaster, and that we have reminiscences of his old schoolmaster's class-room or later words, now and again, in his poems? It is, at any rate, clear that Mulcaster and Spenser had thought over some of the same problems of the Elizabethan age. Let me give an instance or two. Mulcaster says (Quick's reprint of the "*Positions*," p. 135):—

"To have so many gaping for preferment, as no gulf hath store enough to suffice . . . how can it be but that such shifters must needs shake the very strongest pillars in that state where they live, and loiter without living? which needless superfluity fleeting without seat, what ill can it but breed? A dangerous residence it is at home . . . with enmity to order, which mind cannot see. A perilous searcher it is abroad," &c.

The poet, of course, writes much more vividly and concretely.

"So pitiful a thing is suitor's state! . . .
Full little knowest thou that hath not tried,
What hell it is in suing long to bide;
To lose good days that might be better spent;
To waste long nights in pensive discontent;
To speed today, to be put back tomorrow;
To feed on hope, to pine with fear and sorrow;
To have thy prince's grace, yet want her peers'; . . .
To eat thy heart through comfortless despairs:
To fawn, to crouch, to wait, to ride, to run,
To spend, to give, to want, to be undone."

("Mother Hubbard's Tale," 1591.)

As I have not seen any comparison of Mulcaster and Spenser, perhaps I may be allowed to give a passage from each, more nearly parallel than these I have just quoted on the unhappy suitor's state. The subject in Mulcaster is that the aim of toil is to secure rest. These are his words:—

"Every private man travelleth [worketh] in this world to win rest after toil, to have ease after labour, and not to travel [work] still [= always], as being a thing exceeding uncomfortable, if so be it were endless. The soldier warreth . . . for ease . . . The merchant trafficketh . . . to purchase ease . . . Whereby it appeareth that ease after labour is the common end, both private and public, of both all and some; . . . nay, is our whole life here, in this miserable world, any other thing than a toilsome course, to come to some rest? or is the life after this, in God's blessed kingdom, any other thing than an endless rest, after ending travel, to such people as seek for it by the right means to come by it?"

This is painfully wrought-out writing, and Spenser's words which I am about to read, are much more beautiful and effective but I venture to suggest the idea is the same, and it is possible Spenser had heard Mulcaster express in laboured phrase, in the class-room, this sentiment, which I have given from the "*Elementarie*." If so, Spenser gives the following lofty, impressive rendering:—

"Is not short paine well borne that brings long ease,
And lays the soul to sleep in quiet grave?
Sleep after toil, port after stormy seas,
Ease after war, death after life, does greatly please."

It would be interesting to inquire into the reason why Elizabethan poetry is, on the whole, so much simpler in expression, so much more concise and matter-full than Elizabethan prose. As the solution which I should be inclined to offer has a close bearing upon Mulcaster's prose, I take the liberty of stating my opinion.

Mulcaster, for instance, was quite competent to write a treatise on education in Latin. To do it, however, would require great

* Dean Church refers to Mulcaster as "Dr." Mulcaster. An American writer on the history of education speaks of him as "honest Richard." If we must dignify the man with a prefix, I prefer the Dean's.

effort and continued concentration. Now, the sense of effort which accompanied the writing in Latin was frequently, if not always, present when good writing was turned out. Accordingly, it was to be expected that, if English was written with ease and fluency, it could not be of great value as a discipline. He, therefore, is not displeased when he can write: "Even some of reasonable study can hardly understand the couching of my sentence and the depth of my conceit." If he remembers, at one moment, that he is writing in English, because he "means good [well] to the unlearned," he adds, in the same breath, "though I make the learned my judges." How could he be convinced that he was offering something worth the reading to the learned judges, unless he felt the old sense of effort in his English writing which accompanied his well-turned Latin. This, probably, accounts to some extent for Mulcaster's conceit. He is conscious of great strain and effort, and says: "My own penning is a general pattern," passing by, as Mr. Quick deprecatingly notices, Shakspeare and Spenser. We must, however, remember the "Elementarie" was printed in 1582, Shakspeare's first play about 1590, and Spenser's "Faerie Queene" 1590-96.

Coming to the educational works* of Richard Mulcaster, I cannot but refer again to Mr. R. H. Quick's reprint (1888) of the "Positions" (1581), usually considered Mulcaster's most important work. I will not treat of it fully, because everyone now has recourse to that book. Rather, I will deal at length with the "Elementarie," Mulcaster's other great educational work. I may, perhaps, in passing, draw the attention of anyone who has not read the "Positions" to the fact that in it Mulcaster advocates, with irresistible force, the importance of physical training as a basis for mental development, and urges that it should be of such a nature as is fitted to the child at each stage of growth. Amongst the kinds of training at various periods of life which he approves, at the same time offering powerful reasons for his approval, are dancing, wrestling, fencing, walking, running, leaping, swimming, riding, hunting, shooting, hand-ball, football. Physical training, he points out, is as necessary for girls and women as for boys and men. In fact, he insists upon the education of girls equally with that of boys. He shows the "towardness" of the gentler sex to learning:—

"That young maidens can learne, Nature doth give them, and that they have learned, our experience doth teach us, with what care to themselves, themselves can best witness, with what comfort to us, what forraigne example can more assure the world, than our diamond at home, our most dear sovereign lady and princess?"

Lastly I will mention the training of teachers:—

"Why should not . . . men . . . be chosen and set forth for the common service? Is the framing of young minds so mean a point of cunning? Be schoolmaisters in this Realme such a paucitie as they are not in good sadness to be soundly thought on?"

All this is stoutly maintained in Mulcaster's "Positions," written three hundred years and more ago!

It is difficult to leave the "Positions" with so short a treatment, for there is so much in it that is suggestive. Richard Mulcaster, however, laid great store by his "Elementarie," and of it there is no reprint, nor even any very comprehensive description in any educational book, as far as I know.

The "Elementarie" deals with school-life up to twelve years of age, before the teaching of grammar (Latin) is begun. Now, Mulcaster boldly maintains—three hundred years ago, remember—that the highest master should teach the youngest boys, and should receive the highest pay for so doing. It is the foundation, well and soundly laid, which supports the whole building. "If I were to strike the stroke," says he, "as I am but to give counsel, the first pains truly taken should be in good truth be most liberally recompensed; and less allowed still upward, as the pains [of teaching] diminish, and the ease increaseth."

An application of this principle occurs to me. Mulcaster's "Elementarie," we shall see, is not only an exposition of an education which is elementary, but it is also, in aim, liberal and disinterested. Its aim is to humanize the child, not, as is so current an aim with us to-day, to utilize him. Why, then, do not the Universities come forward and suggest Mulcaster's ideals, or some better, and show themselves, as the highest masters, ready to train, or at least, point out the way of training, the elementary pupils of the nation's schools?

* Besides the "Positions" and the "Elementarie," the only other books the names of which are known, are the "Cato Christianus" and the "Catechismus Paulinus." Mr. Quick draws attention to a quotation from the former in Robotham's preface to the "Janua."

The "Elementarie."

The subjects he proposes "be" five in number: reading, writing (we miss arithmetic!), drawing, singing, and playing. In addition, always, and of the first importance, whatever will "strengthen their [children's] bodies or quicken their wits." This liberal course Mulcaster grounds upon authority (Plato, Aristotle, Politian, &c.) and "probability," but he is aware that so full a course will not be "allowed of most." How modern this passage sounds! Mark the direct and dignified English, when Mulcaster lets himself go:—

"Who am I to persuade the liking of so full an Elementarie? . . . [It may be said to me]: 'You meddle in this matter alone, you do but trouble yourself; you cannot turn the course which is ordinary and old, and therefore very strong for you to strive against; this thing which you commend is not every man's war; it will not be compassed; do you let it alone; if you will needs write, turn your pen to other matters, which the State will better like of: which this time will soon allow: which you may persuade with credit, if they be new and suitable; or confirm with praise, if they be old and need the file.'"

Mulcaster recognises that this is the fate of everyone in "all attempts of turning." This is his answer:—

"To win a resolute good, he that wishes to have it must think to wrestle for it, both with words and writing, against corruption of the time, against the aloneness of attempt, against the prejudice of parties, against the difficulties of performance, and whatever else."

Then follows the curious passage:—

"May it not fall out that such a thing as this is may be called for hereafter, though presently not eared for, through some other occasion, which hath the rudder in hand. I had, therefore, rather that it were ready then, to help when it were wished for, than for fear of misliking, at the first setting forth, to defraud posterity of a thing so passing good."

Posterity has not interested itself to hear what Mulcaster has to say. Yet, in an age which has adopted free elementary education, it would not be inappropriate or unacceptable to have a reprint of the "Elementarie," and for the rest of the nineteenth century or the twentieth, that English people should judge for themselves if Mulcaster's ideas are "passing good."

Mulcaster planned his "Elementarie," not for all boys and girls, but for those who, by their quick conceiving, sharp wit, laborious courage, fast retaining, and honest disposition, showed themselves worthy of going on to the heights of learning. He would have every child taught reading and writing; but his "Elementarie" is, strictly speaking, a *foundation* for a higher course. Yet much of what he has to say is true for education which ceases at twelve or thirteen. Here is a rationale of his subjects: "By reading we receive what antiquity hath left us, by writing we deliver what posterity craves of us; by both we find great ease in every occasion of our daily use." Drawing trains the eye: music, established on arithmetic (one of Mulcaster's few references to arithmetic), helps to an appreciation of the beauty of concord and the blot of dissension even in a politic body, and, moreover, is the "natural sweeter of our sour life, in any man's judgment that is not too sour." (Ends proposed are human, not merely utilitarian. Man is the end, not the means.) Mulcaster insists on the training of the hand in writing, the eye in drawing, and the ear in music. He offers a psychology—of a somewhat crude kind, it is true—for the senses, the brain, "the prince of all our parts," and the soul. He also gives a rough account of the physiology of digestion and nourishment. It is interesting that he should make an essay towards a psychology, and that he should base his teaching on it, crude as it is.

He divides abilities into the *first humanities*, and the *best humanities*. The former include all that is necessary for living, the latter refer to those induced by "train," or education, for *living well*. Of the *best humanities*, he says—and this may stand as his

Definition of Education:—

They (the best humanities) "form the senses and the instruments thereof to their best perfection and their longest endurance. They restrain desire to the rule of reason, and the advise of foresight. They so enrich the mind and the soul itself, as they lay up in the treasure of remembrance all arts, all forecast, all knowledge, all wisdom, all understanding, whereby either God is to be honoured, or the world to be served in honest and wise sort."

The training of the powers of children is done, so to say, surreptitiously. Mulcaster occasionally introduces stories to illustrate his point, and he tells how Timotheus, the Athenian, gained his victories by the want of thought on the part of the enemy. He thinks, in the same way, the friends and teachers are to steal a march on unwary boys and girls, and educate them,

as he himself says, "ere themselves can perceive it." This precisely brings out Mulcaster's defect in the light of later pedagogy. He has no adequate idea of the responsive self-activity of the child, as a pedagogic principle.

When, however, he speaks of the *necessity of the fore-train*, he is a modern of the moderns.

"Is the compassing of tongues [languages] hard? sure so it is, to one of no fore-train, that never learned grammar, that never read writer, that never proved his stile [pen]. Be the mathematics hard? Sure so they be to one not prepared, that never did number, that never drew line, that never knew note, that never marked motion. Be the abilities of the body laborious and hard? Sure, that they be, where no exercise goeth before, where the joints be stiff, where it is painful to prove what the body can do, being never put to it."

In connexion with the necessity for this elementary foundation, there are two points in Mulcaster which are so much in accord with the best (I say best, advisedly) modern education, that I must mention them. First, he thinks the advantage of grammar teaching at an early stage is overrated.

"The end of Grammar," he says, "is to write and speak, which *when we do most*, we learn our grammar best. . . . As for the understanding of writers, that comes by years and ripeness of wit, not by rule of grammars."

Such a sentence as that ought to have warded off scores of English literature text-books. Even the University Press might have gathered wisdom of omission in their grammatical and textual criticism notes, but for the fact that there is no reprint of the "Elementarie" for them to read.

Secondly, although the idea of universal education has not struck Mulcaster, yet he is exceedingly liberal in his view of the use of his elementary "foundation." After saying that, for the boy who is destined for learning, he will find nothing intolerably hard if he has had a good fore-train: "Nay, what shall he find hard, though handicraft be his end? For he may well have all these [elementary] principles, yea, and the mathematics, too, and yet aspire no higher than the plain workman." In another passage he distinctly asserts that it is a mistake to suppose a handicraftsman can be satisfactory without sharp wits and good abilities.

"Choice of wit limits students.

"Is (a boy) poor? provide for him, that he may live by trade, but let him not loiter. Is he witty? why, be artificers fools? and do not all trades occupy wit?"

I am loath to leave out Mulcaster's stories of Dionysius and the Cook, and of Syphax, King of Barbary, and many *bons mots* in his pages. Nor can I dwell upon a most interesting educational topic, in what he calls "the general platform and method of the whole Elementarie." This includes a comprehensive and illuminative discussion of the subject-matter of the "Elementarie," and also Mulcaster's method or "manner" of teaching each of the subjects.

I pass on to the most distinctive feature of Mulcaster's "Elementarie," that by which he will ever be known, and that for which the book will, some day, be read.

The Teaching of English.

Latin was, as we have seen, the learned tongue, and Mulcaster apologises for his plea for the teaching of English. He says:—

"Our natural tongue being as beneficial to us for our needful delivery as any other is to the people which use it; and having as pretty and as fair observations in it as any other hath, and being as ready to yield to any rules of art as any other is, why should I not take some pains to find out the right writing of ours, as other countrymen have done to find out the like in theirs?"

He returns, again and again, to this delightful theme. His joy in it is comparable to that of Columbus on seeing America. Mulcaster discovered the great merits of English, as a language. How could he justify his pleasure to a learned world that, by tradition and use, only thought of Latin as a literary language? He must show, in the first place, its antiquity.

Antiquity of our Tongue.

Our language cannot be called young—

"Unless the German himself [itself] be young, which claimeth a prerogative for the age of his [its] speech of an infinite prescription; unless the Latin and Greek be young, whose words we enfranchise to our own use, though not always immediately from themselves, but most-what through the Italian, French, and Spanish; unless other tongues, which be neither Greek nor Latin, nor any of the forenamed, from whom we have somewhat, *as they have from ours*, will, for company's sake, be content to be young, that ours may not be old. But I am well assured that

every one of these will strive for antiquity, and rather grant it to us than forego it themselves."

In bold, noble language, instinct with the patriotism of the Elizabethan age, Mulcaster speaks of the English nation as being of "good credit," even in the language of its detractors and enemies. He then shows that the matter of our speech is as significant and lofty as that of any other nation. He discusses, with admiration, the effect that chivalry must have had in increasing and refining our vocabulary. The inspiring effect of war, its true and untrue reports, its projects, devices, and multitude of discourses, are vigorously shown, and, finally, Mulcaster draws attention to the influence of trade in expanding ideas, and in provoking apt expression.

"If the spreading sea and the spacious land could use any speech, they would both show you where, and in how many strange places, they have seen our people, and also given you to wit that they deal in as much and as great variety of matters as any other people do, whether at home or abroad. Which is the reason why our tongue doth serve to so many uses, because it is conversant with so many matters, in so sundry kinds of dealings. Now all this variety of matter and diversity of trade make both matter for our speech and means to enlarge it."

Time does not permit me to give an account of Mulcaster's thorough-going attempt to expound the principles of English teaching. He divides his discourses and exposition into proportion, composition, derivation, distinction, enfranchisement, prerogation. He supplies a general table, in which he gathers together the words most commonly in use in Elizabethan speech. The whole treatment of English is so interesting that it is rather remarkable how the student of the English language usually manages to overlook the study of the "Elementarie."

Mulcaster addresses a long peroration to his readers at the end of his "Elementarie." In it, he returns once more to the advocacy of the English language, as a subject for teaching, and as worthy of cultivation. He is headmaster of a classical school, he is an able Latin writer, and yet his call to the study of English is the strongest thing of its sort in the last three hundred years. Now, we know, English is being taught worthily in some schools, owing largely to the successful teaching of English in girls' schools. It is an interesting conjunction—women and literature. Mulcaster was all for the training of the one, and the teaching of the other, in the time of good Queen Bess!

One passage more, the best known, from the peroration to the "Elementarie." It is on the value of the English *v.* Latin as a literary language:—

"Our own language bears the joyful title of our liberty and freedom, the Latin remembers us of our thralldom and bondage? I love Rome, but London better; I favour Italy, but England more. I honour the Latin, but I worship the English. . . . I honour foreign tongues, but wish my own to be partaker of their honour. Knowing them, I wish my own tongue to resemble their grace. I confess their furniture, and wish it were ours. Why should not all of us write in English? . . . I do not think that any language, be it whatsoever, is better able to utter all arguments either with more pith or greater plainness than our English tongue . . . not any whit behind either the subtle Greek for crouching close, or the stately Latin for spreading fair."

Imagine Mulcaster had been a German, and had been writing of the German language, would not his words have been known and valued this many a year? It is still an open question whether the "Elementarie" will be reprinted by a German editor and publisher, or by Englishmen. Whichever it may be, let us hope it will come soon, and those words of Richard Mulcaster find fulfilment:—

"May it not fall out that such a thing as this is may be called for hereafter, though presently not cared for, through some other occasion which hath the rudder in hand?"

I will recall the main educational contentions of Mulcaster:—

1. Culture and learning for those who have the wit to profit by it, whether rich or poor. Adequate knowledge for those who go into trade.
2. Education for girls and women, as well as boys and men. Higher education for girls who have good abilities.
3. Training colleges for teachers.
4. Physical training for all—boys and girls, teachers and pupils, and this to be continued in after-life.
5. Liberal education, with disinterested aims for the elementary schools.
6. The best masters to take the lowest classes.
7. Drawing and music to be taught in every school, not as "extras," but as essentials.

You will notice that the last-named five aims are only within

the field of discussion even yet; they are not *faits accomplis*. All this time they have been in Mulcaster's book, and Mulcaster's book—a few copies of it, very few—have been gathering dust.

What stronger argument could there be as to the need of the colleges and Universities of the land to act as the reservoirs of pedagogic aims and methods, and to distribute to those about to become teachers the knowledge of the best of what has been thought on educational matters? Here we have Mulcaster, a man living three hundred years ago, with ideals towards which we are just beginning to approach. He has had to stand in his "aloneness of attempt" all this time, because he has been unheard of and unknown—there are no intermediaries, at the seats of learning, between the thinkers and the workers in the subject of education, the first object, one would expect, of the Universities to encourage, especially in its highest aim. Mr. R. H. Quick, as the saying goes, "discovered" Mulcaster, pretty much as Charles Lamb, Coleridge, Hazlitt, and Leigh Hunt disclosed so much of the scope and grandeur of the Elizabethan dramatists to an astonished generation at the beginning of this century.

The parallel is encouraging. The return to the Elizabethans has resulted in an intimate knowledge of Elizabethan literature, and in a dissemination of that knowledge such as did not obtain even in the days of Queen Elizabeth herself. Let us hope that Mr. Quick's discovery of Mulcaster, and Mr. Laurie's revivifying of Comenius in England, will produce, in their degree, results similarly fruitful in the study of the history of education.

Rev. J. H. LURTON expressed the pleasure with which he had listened to the paper, in which there was much that was new. As to the possibility of Mulcaster's being the original of Holofernes in "Love's Labour Lost," Holofernes was intended as a type of a country pedagogue of the time. The acting of plays by schoolboys was a marked feature in Shakespeare's time, and he rather expected to have heard more of this in the paper. When the "Comedy of Errors" was acted in Gray's Inn Hall, an address was presented by the boys of St. Paul's School, in Mulcaster's time. As to the suggested relation of Spenser to Mulcaster, he thought that there were difficulties in accepting this view. The "Shepherd's Calendar" was generally regarded as autobiographical, and, while some references seemed to point to a London school, there were also allusions to hunting the wild boar, for which opportunity could hardly have been found in the neighbourhood of the metropolis; and if it were suggested that the hunting might have been carried on during the holidays, it was to be observed that there were, apparently, no regular vacations at Merchant Taylors' School, the statutes of which were based on those of St. Paul's. Moreover, Spenser's defective Latin, and his known familiarity with Italian, seemed to militate somewhat against the theory of his having been one of Mulcaster's pupils at Merchant Taylors'. As to the place assigned to music in Mulcaster's scheme, it might be remarked that this subject had a wider connotation than was given to it at the present day, and probably included elocution, and possibly also the theory of numbers.

Mr. THORNTON observed that it had been said that the late Mr. Quick, the author of "Educational Reformers," had discovered Mulcaster, but he believed that it was to Mr. Joseph Payne that the credit of the discovery should properly be assigned, while Mr. Quick, undoubtedly, by his writings, made Mulcaster known to the teachers of the present day. He would suggest the possibility of tracing the effects of Mulcaster's books on English schools of his own time, or that immediately succeeding.

Mr. LEACH referred to the statutes of a school in Cheshire, which he had recently unearthed, and which contained much curious information as to the method of school-keeping, and the kind of education given about Mulcaster's time. The statutes were evidently based on those of Colet's School, and might be taken as fairly typical. It appeared that in the matter of holidays the pupils were not considered, and only the master was to be entitled to a vacation. Nothing was said about the teaching of English, only Latin and Greek being mentioned. He did not understand that Mulcaster, himself, actually taught English, but rather recommended the study, as a counsel of perfection. Up to the year 1385, the scholars had to translate from Latin into French; but in that year John Cornwell and Robert Penkridge, schoolmasters of Merton College, Oxford, first introduced the translation of Latin into English. Dr. Furnivall had asserted that as late as 1865 there was only one of the great public schools in which English was a subject of instruction. He probably meant Merchant Taylors'. But he (Mr. Leach) could affirm, from personal knowledge, that English was taught at Winchester at that time. Writers on education were too much given to asserting that nothing had been done by the men of old time in the development of sound educational methods. With regard to arithmetic, he did not believe the subject was not taught in Mulcaster's time, except as a branch of music. He did not approve of Mulcaster's idea that strictly elementary education should be continued up to the age of twelve, considering how early it was the custom to begin.

Mr. EHLMANN said that it did not appear to have been noticed that Richard Hooker was one of Mulcaster's pupils. It was also interesting

to note that J. J. Rousseau, who could hardly be supposed to have heard of Mulcaster, had, in his "Emile," worked out a system of education on very much the same principles.

The CHAIRMAN said the subject of the paper was not a controversial one, but was valuable in suggestiveness and in the glimpses it afforded into an educational past. When Queen Elizabeth visited Winchester, in 1570, an address was presented to her, in the shape of a long Latin poem, in which were described the books they used and the routine of the school-day. A MS. preserved at Corpus Christi College, Cambridge, described school-life at Eton in 1560. English verse was taught as well as Latin, and boys were taught to write a good hand. The beds were of straw—at any rate, at Winchester. The day began with prayers at six, and school began at seven. The Eton boys conversed in Latin. Friday was flogging-day. The cost of the board and education of two boys, with their man, was about £12 a term. With regard to the teaching of arithmetic, the earliest instance he had met with was in the Charterhouse Charter (1627), where it is stated that scholars are to be taught to cipher and cast accounts, especially those who had to go to a trade. As to Spenser's early acquaintance with Italian, it should be observed that the study of that language was common in those days. Milton also learnt it in early life. Many references in subsequent treatises on education showed the effect of Mulcaster's writings on English schools. These references should especially be sought for in the prefaces. It was the custom not to go to a grammar school before the age of eight; before that the pupil usually went to a dame's school, where it may be assumed that English was the staple of instruction. Few grammar schools would receive boys who had not a knowledge of the Latin accidence. Holidays were short—a fortnight three times a year. Easter was the close of the scholastic year; and fifteen the usual time for leaving school. Forty boys in a class was no uncommon number; and many classes were taught in the same schoolroom. Boys in the upper forms were expected to teach the juniors. The writing master was a visiting master, and there were separate writing schools. A headmaster's salary was £40 a year, and the school fees 10s. a quarter.

A vote of thanks to the lecturer concluded the proceedings.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A Meeting of the Council was held on Saturday, the 17th December. Present: Dr. Wormell, Vice-President, in the chair; Miss Bailey, Mr. Barlet, Rev. A. W. Boulden, Mr. Bowen, Mr. Brown, Miss Buss, Rev. Dr. Conder, Dr. Dillon, Mr. Eve, Mr. Harris, Miss Jebb, Mr. Milne, Mr. Pinches, Mr. Reynolds, Mr. Robinson, Rev. W. J. Savell, and Mr. Storr.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the Christmas Examination for Certificates had been held on the 6th–9th December, at 300 Local Centres and Schools in all parts of the country. The total number of candidates for whom fees were paid was 10,731. He also reported a large increase in the number of candidates entered for the Christmas Examination of Teachers for the College Diplomas.

The 13th of June and the 5th of December were fixed as the dates of commencement of the General Examinations for Certificates in 1893.

The draft Report of the Council to the General Meeting was considered, and referred to the President, Vice-Presidents, and Dean for final revision.

The following persons were elected members of the College:—

- Mr. F. Arnold, Rugby House School, Eastbourne.
- Miss A. Bennett, 13 Endsleigh Gardens, N.W.
- Miss J. C. Child, A.C.P., Raincliffe College, Lyonsdown, New Barnet, N.
- Rev. H. M. De Ste. Croix, M.A. Oxon., 183 Kyverdale Road, Stamford Hill, N.
- Mr. A. W. Elliott, A.C.P., Longwood Grammar School, Huddersfield.
- Mr. B. E. Fernie-Lunn, The Rectory, Marton-cum-Grafton, York.
- Mr. B. L. Hickie, Albury, New South Wales.
- Mr. C. R. Humphrey, The Huish Endowed School, Taunton.
- Mr. G. A. Litchfield, B.A. Oxon., 2 Fitzjohn's Pavement, Finchley Road, N.W.
- Mr. J. L. Randall, A.C.P., 9 Amhurst Road, Hackney, N.E.

The following books had been presented to the Library since the last Meeting of the Council:—

- CLARENDON PRESS.—Jerram's Virgil's Georgics, Books III. and IV.; Sweet's Short Historical English Grammar, and Manual of Current Shorthand.
- CLAY & SONS, C. J.—Black's Book of Judges (Smaller Cambridge Bible for Schools); Braunholtz's Cornhill's Polytechnic.
- COLLINS, SONS, & CO.—The Clear School Atlas; The Graphic Reader, Books I., II., III., and IV.; Graphic Historical Reader, Books III. and IV.; Advanced Historical Reader; Graphic Geographical Reader; Laing's History of English Literature; Trotter's Grammar and Analysis.
- ENOCH & SONS.—Czerny's Violin School.
- GINN & CO.—MacCabe's Language Lessons and Grammar Lessons.
- PERCIVAL & CO.—Allpress's Fischer's Die Wandelnde Glocke; Brent's Euclid, Book I., and Euclid, Books I. and II.; Kitchener's Naked-Eye Botany; Lyon's Intermediate French Translation Book; Freytag's Aus dem Jahrhundert des Grossen Krieger; Morich's Ponsard's Charlotte Corday; Pellissier's Vivá Voce French Class-Book; Pressland's Geometrical Drawing; Vecqueray's Moreaux Détachés d'Auteurs Contemporains; Whitfield's Introduction to the Commercial Sciences.
- Calendar of the Royal Veterinary College.
- Fortieth Annual Report to the Council of the City of Manchester on the Working of the Public Free Libraries.

SPECIAL MEETING OF THE COUNCIL.

A Special Meeting of the Council was held on the 3rd December. Present: Dr. Wormell, Vice-President, in the chair; Miss Bailey, Mr. Barlet, Mr. Bowen, Mr. Brown, Mrs. Bryant, Dr. Buchheim, Mr. Charles, Mr. Chettle, Rev. Canon Daniel, Mr. Eve, Miss Hughes, Mr. Milne, Mr. Pinches, Rev. Dr. Poole, Mr. Reynolds, Mr. Robinson, and Mr. Storr.

The "Bill to Promote Secondary Education in England," which was introduced by Mr. Arthur Acland in the last session of Parliament, was discussed, and a Special Committee was appointed to examine the provisions of the Bill in detail, and to report to the Council thereon.

THE CONFERENCE OF WOMEN WORKERS.

BESIDES the meeting held at Bristol during the week of November 7th, there have been three previous conferences of women workers; these were held at Barnsley, Birmingham, and Liverpool. The energetic committee who organized this last meeting must have been much pleased with the result, for the whole tone of the conference was one which promises well for the future of women's work. The papers which were read were thoughtful and temperate, whilst one or two showed much ability and power of grasping principles as well as details. Another remarkable feature of the meetings was the courteous consideration displayed by the very different schools of thought to each other. On the same platform might be seen High Church and Low Church, Wesleyans, Salvationists, and other denominations. Differences were, however, easy to merge when the whole spirit of the conference was: "How best can we women help our fellow-creatures?" This was the common standpoint, whilst the religious spirit was discernible in all the papers that were read, and in many of the earnest faces of silent listeners.

With a few exceptions, there was, however, one general fault. Women have not yet learnt how to read or speak in a large hall, and many hearers must have realized with disappointment that elocution is not a general branch of study among women. We can but mention a few thoughts that struck us, for the subjects were too numerous to be really threshed out, and the time of discussion somewhat too limited to arrive at any general consensus of opinion, but much was said which was of permanent value, and of practical help to honest workers. Previous to the first general meeting there was a private gathering of lady guardians, who discussed the cases of weak-minded girls in workhouses, and the need of greater classification within those often cheerless walls.

Mrs. Alfred Marshall's paper on friendly societies for women was full of information, but much more knowledge on this subject is required, and several grave difficulties must be overcome before women's friendly societies can stand on a firm financial basis. The discussion turned on the various merits of isolated and amalgamated societies.

Miss Hubbard, who has long worked for the cause of poor gentlewomen, was enthusiastically received. Her paper was all the more valuable that it gave no false hopes of remunerative work, for she pointed out that elementary school teaching and domestic service were the only two openings where supply did not overbalance demand. Thus the prospect for women who must keep themselves is by no means encouraging, and it was a good thing that the women engaged in emigration work can still offer some openings in the colonies, and that Miss Calder, of the Liverpool School of Cookery, &c., wants capable women to train as teachers. But what shall we do with our many poor incapable gentlewomen?

The temperance meeting offered no new solution to the well-worn subject, except that it advocated more free homes for poor inebriate women, and seemed inclined to turn its hopes towards that often-broken reed—Parliamentary interference. The two lady doctors who spoke—Dr. Kate Mitchell and Dr. Dunbar—were well received, but hardly added any practical suggestions to the discussion, having learnt to perfection professional caution. Mrs. Percy Bunting touched a newer theme in relating her as yet too short experience of hypnotism as a means of curing the drink craving, but we shall watch the progress of her three cases with interest. As Dr. Dunbar said, the subject is on its trial, a fact we could have evolved for ourselves; whilst Dr. Kate Mitchell suggested that, when water is bad, salutaris should be tried, reminding us a little of Marie Antoinette's suggestion that if bread failed cake should be eaten.

Miss Ford's paper on women's trades unions was a great success, though her belief that unions prevent strikes possibly needs stronger proof.

The meeting on Wednesday, relating to work among the poor, appealed to all present, and Miss Sewell's paper at once raised the subject to a high level. All the speakers of experience were in favour of training for the work, and Mrs. Hugh Price Hughes came before the conference with an interesting account of the work of her Wesleyan sisterhood, which included all creeds, and but slight training, and where extraordinary harmony seemed to reign. All her agencies for good, though interesting, were not new to church people, but the very existence of a Wesleyan sisterhood was a sign of the new era. Still, the old paths our fathers trod were not all effaced, for Mrs. Hammond, who prefaced her remarks with the announcement that she was nobody from nowhere, gave it as her experience that, when you have first accepted the sympathy of the poor for your own joys and sorrows, they will readily accept, not only your sympathy, but your efforts on their behalf.

The meeting for young ladies was the occasion of a paper full of thought from Miss Beale, of Cheltenham, on "Money, its Use and Abuse"; and another, from Miss Woods, late of Clifton High School, on "The Power of the Individual." If this paper was a little above her audience, it was far superior in tone to Miss Mason's speech, which struck a low and false note, on the subject of Love, Marriage, and Old Maidism.

The rescue meeting was strictly limited to elder women, and the proceedings were stern and business-like, as we could be sure would be the case when such women as Mrs. Fawcett, Miss Liddett, and Miss Steer took part in it.

Perhaps no abler summing-up could have been contributed by a woman than Miss Blanche Leppington's paper on "The New Era," as she closely argued out what were the difficulties of this era, and the visible signs of the two great problems—the problem between the rich and poor, and the problem between man and woman, which must of necessity include the threefold question of the rights of man, woman, and child. Miss Leppington spoke of the rights of the poor, of the mistakes of the socialists and of non-socialists, and of how our sympathies must not be denied to their attempts to solve the hard problems. She told us that we should welcome attacks on our work, for our era is nothing if it is not scientific, which means that it believes in evolution, which is a change for the better. She bade her audience not to expect to hear that all was well, but rather to be anxious to know how wrong is to be righted. She told the women before her that they stood on the threshold of public life, but that they must not carry into that arena the old mistakes they would inherit from the past, but that they must transplant the purity of the home into this new public life. Then, striking another key, she went on to point out that clinging to old ideas and to the traditions of the past is not the noblest or the most important part of life: that the Christian ideal is an ideal of progress. "I have many things to tell you, but ye cannot bear them now." "Fear not; it is the Father's good pleasure to give you the kingdom." And, lastly, she raised new courage in her hearers by quoting Dean Stanley's stirring words:—

"Far behind we leave the past,
Far before our looks are cast;
Wheresoe'er the truth may lead
Lo! He guides us in our need."

And then, to emphasize this noble hope, after having sounded the stern, if moderate, note of warning, the reader of this very able paper ended her words on the new era by the joyful cry of the Prophet-King, "O God, my heart is ready, my heart is ready."

The concluding paper, on "Quiet Hours," written by the Duchess of Bedford, and admirably read by Miss Clifford, one of the most popular of lady guardians, was very good and useful, containing such calming thoughts as: "Let life tell its own story: Pauses of life during which we need not reflection only, but inspiration: When tried we should open the windows of our soul as we should those of a hot room," &c.

We cannot tell with certainty what will be the outcome of such a conference, but we believe it will result in greater efforts at organization, a better understanding between men and women in all cases where women officials are especially needed and are at present wanting, a larger hope for the future, based on a wider knowledge of its needs and difficulties, and lastly, a charity which will help good works to bring forth a hundredfold, acting like rain upon a parched land.

The new era need not despond when it has in its midst such noble and able women workers as we have here mentioned.

ESMÈ STUART.

CORRESPONDENCE.

PROFESSOR LAURIE ON HERBERT SPENCER.

To the Editor of the Educational Times.

SIR,—Were it not that it might be construed as incivility, I would not ask you to encumber your pages with a reply to Mr. Wells. I have “said my say,” and, he having criticized me, the matter might well rest there.

Mr. Wells wishes to know my idea of a “proximate end” in ethics. I have stated my views in full on the whole question in a book, and in the circumstances I may be allowed, without the imputation of egotism, to refer to it.* I may say, generally, that “proximate end,” in the qualitative sphere, is a contradiction in terms, except in so far as it means an approximation to an end. I used this last mode of expression in my paper in the interests of Mr. Spencer’s argument, not in hostility. In a short address, with a specific purpose, one cannot elaborate everything.

I said that there cannot be two ideals—a practical or proximate, and an ultimate. An ideal is an ideal, integrity is integrity, justice is justice, truthfulness is truthfulness, and a “practical” ideal cannot be integrity, or justice or truthfulness. It must be a mixture of these ideas with their opposites. This being so, teachers and parents should be warned against supposing that they have any aim in training but the ideal, which alone is the truth. We do not train children to approximations.

Mr. Spencer himself admits ideals, but he plays fast and loose with them, and gives them a subordinate place in his method. Surely, no one can doubt this. Of course, it may be that Mr. Spencer is misunderstood; but who is to blame for that? Take any one of the various moral ideas which together make up the ideal, and put down in plain words what the “proximate end,” the “practical ideal,” precisely is relatively to this idea. Do this, and tell the world of teachers that *this* is to be the end, purpose, or goal of their training, and you will teach the false; and this is what Mr. Spencer does in so many words, still more by the whole context of his argument. I denounce this teaching as false teaching of teachers.

As to the criterion of morality, viz., the “sum of pleasures,” I am not sure that I understand what Mr. Wells’s objection is. What I say is that if a martyr, roasting before a slow fire in witness of his spiritual integrity (an ideal), had been taught that the “sum of the pleasurable” was the true criterion of all motives of action, he would never have been roasted. And, further, that a man who holds that the “sum of the pleasurable” is the true criterion, must look on the said martyr as a mistaken man, who had done his sum badly. Of course, I know very well that advantage may be taken of the half-dozen meanings of the word “pleasure” to get out of this position. But I positively decline to accept any meaning but the ordinary meaning—especially in a book designed to be popular. It is impossible to discuss questions if we juggle with words; one must know under which thimble to find the pea.

As to the defence of Mr. Spencer himself: surely so eminent a man does not need this at Mr. Wells’s hands. I said not one word about the man; and if I were to do so, I think I could out-write Mr. Wells on this topic. A man has to be himself a life-long student of philosophy to appraise the single-minded devotedness of Mr. Spencer to the search for truth, in the face of innumerable difficulties. It seems to be an offence to Mr. Wells that I use the name of Christ as against Spencer. He takes it for granted that I use it rhetorically, to gain a cheap advantage over Mr. Spencer, by branding him as anti-Christian—an agnostic. In this he is quite mistaken. He himself could not have suggested this contemptible oratorical trick on my part had he read what I have written elsewhere. Mr. Spencer follows Plato’s rule: to follow wherever truth leads. So do I in my humble way; but every nation has its ethical ideal (more or less conscious), and, when I find *Christian* training colleges (denominational), with a loudly-professed *Christian* ideal, inculcating Spencer by order of a *Christian* government, I am entitled to contrast the Spencerian teaching of the young students at two p.m. with the Christian teaching at three p.m., if I believe them to be antagonistic, which assuredly they are.

I should never dream of attacking Mr. Spencer because he was an agnostic, if he were an agnostic, which he is *not*. A man who affirms God (though unwilling to commit himself as to His attributes) is not an agnostic. This is Mr. Spencer’s position. I have not the honour of Mr. Spencer’s personal acquaintance, but his writings do not justify any one in concluding that he is not a man of a devout mind. He believes in an infinite universal causal agent, and regards it as an object of worship. He *says* (it is true) that it is “unknowable,” but, in positing it, he *ipso facto* knows it, and is prepared to worship it. Again, a man who affirms that there is no God is not an agnostic. He is a dogmatist, and *knows* a great deal more than is good for him. There is only the third position, which is that the whole subject is one on which we can say nothing at all. This is scepticism—the dogmatism of scepticism. “Agnostic” is a word invented by Mr. Huxley, and is quite superfluous, as it merely means sceptic, or it means nothing. But it has been caught at by certain confused minds, because it does not sound so harsh as sceptic, and has even a certain religious aroma.

Mr. Wells objects to my use of the word “muddled,” as applied to Mr. Spencer’s entanglement in the word “natural.” This letter is already too long to admit of my going into a discussion of the much-abused words “nature” and “natural”; but it is very amusing to be called “unchristian” because I use the word “muddled.” I frankly admit that it is a platform word, used for emphasis and effect. So with much of my address. It is not a philosophical disquisition, but a *concio ad populum*, the purpose of which is to rouse; and, with this aim in view, one tries to be as pointed as truth permits. After all, is “muddled” an unchristian epithet?

One point more. I do not consign Mr. Spencer’s book to an educational *Index Expurgatorius*, as Mr. Wells seems to think. All of us who have to do with education are much indebted to Mr. Spencer for having, by his book, raised school questions to a philosophical level. Every year my own students are directed to read this book and write on it. But this is a very different thing from offering it, as the foundation of educational moral theory, to the receptive, raw, and unformed minds of training college students. The book is one of several to be read by the student of education, but not to be taught as if it were a revelation, or in such a way or at such a time as to preoccupy the ground, especially in the case of men and women whose philosophical studies probably begin and end with it.

I acknowledge Mr. Wells’s courtesy, but object to one word which slips from him, viz., “misrepresentation.”

I am, &c.,
S. S. LAURIE.

M. GOUIN’S “SERIES METHOD.”

To the Editor of the Educational Times.

SIR,—Will you kindly permit me to make a few remarks on the very sweeping judgment passed upon the “Series Method” in Mr. Beuzemaker’s lecture.

“Methinks the speaker protests too much” when, in describing M. Gouin’s work, he speaks of wading “through a very great deal of pseudo-metaphysics, pseudo-psychology, high falutin talk about first principles, and the most unwarranted generalizations of all kinds” (not a specimen of which is quoted). The account of the laborious efforts of M. Gouin, and the little episode which put him on the right track, is alluded to in this manner: “The monotony of this is somewhat relieved by the account of the mental development of the author, which, from beginning to end, is characterized by incidents in which the combination of miraculous powers with arrant tomfoolery reminds us of nothing so much as the adventures of Baron Munchausen.”

Does not this trench somewhat on *pseudo*-criticism? It is admitted that “young children taught to link the foreign word to a consecutive series of actions following in natural order, will pick up a good deal of language, and quicker than if they were simply allowed to run wild in the nursery with a French *bonne*.” What other method yet tried can do as much at that stage? None that I know of, nor did the lecturer suggest a better.

It is objected that “the method cannot be applied to abstract language.” But sound psychology teaches that the child-mind must be reached through the concrete; and the more vivid and accurate the child’s perceptions of concrete objects and actions, linked with language to express them, the clearer will be the after-images, ideas, thoughts, and other higher mental phenomena.

* “Ethica; or, the Ethics of Reason,” by Scotus Novanticus.

"Nihil est in intellectu quod non prius in sensu," says Comenius. And, as was aptly remarked by a speaker after the lecture, "we drift unconsciously from the concrete to the abstract." But in the "Series Method," provision is made for the expression of judgments, reflections, &c., in the "subjective language" used by the teacher.

The Action Series is "only a systematized nursery method." If it is so, psychology does not teach us to despise the day of small things. There are some thoughtful people who can see a philosophical reason even in the Kindergarten.

M. Gouin's system is for "pupils in the Kindergarten." This is a mistake. At that stage children are exercised in the use of their mother-tongue, in the transition classes they learn to read it. It is on leaving the transition class—at about the age of seven or eight years—that pupils are ready to begin to learn a foreign language; and here the Series Method most aptly meets their needs, on the threshold of the school.

"It is not necessary to go into psychology to show that, either for the young child or for the grown-up person, this method must be a very bad one." This assertion is calculated to create prejudice, and to deter teachers from investigating the method for themselves.

Just when teachers had settled down to the idea that it was impossible to teach pupils at school to speak a foreign tongue—that the most that *could* be done there was to teach them to read and understand it, and perhaps make some attempts at letter-writing, whilst the power of conversing in the language was left to the chance of a few months' residence abroad—M. Gouin's "Series Method" comes and overturns this theory like a house of cards.

Allusion was made, as an argument, in the course of the lecture, to the non-entertaining character of the multiplication table. But that depends on the method adopted to teach it. In the hands of an intelligent teacher, the building up of the multiplication table can be, and *is*, made a very interesting exercise, or rather series of exercises.

My ungracious task is done. I would recommend teachers who have some knowledge of psychology and phonetics to give the Series Method a fair hearing, and judge it for themselves.

The points that specially strike me are its simplicity, continuity, and interest. Dealing with the common actions of everyday life, it appeals at once to the child's sympathy and imagination. It is a valuable aid to memory, for the word linked to the mental image grows to the mind. The detailed exercises, following in natural sequence, encourage connected thinking and expression, mental habits of great service on all sides of education.

I expect no wonders, but great satisfaction, from the adoption of this system. My youngest pupils who have learnt French but a few weeks will learn on it alone, and the College of Preceptors will, I hope, test results when the proper time comes. The little ones delight in their French lessons, and the older pupils (who have been studying Fasnacht's course, &c.) also enjoy learning the "Series," as well as reading the "French and German Echoes," which they take in regularly.

Regretting to trespass so far on your valuable space, I am, Sir, yours faithfully,

MARGT. C. CROMBIE.

Kindergarten Training College, Leylands, S.W.

December 19th, 1892.

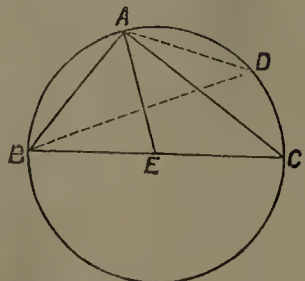
EUCLID III. 31.

To the Editor of the Educational Times.

SIR,—The proof of the third part of this Proposition is, in the text-books, almost, or quite, universally made to depend upon Euclid III. 22. This is not necessary, for, taking D any point in the arc ADC , if we join AD , BD , it is at once seen that the angle BAD is greater than the angle BAC , i.e., greater than a right angle, and the segment BAD less than segment BAC , i.e., less than a semi-circle. Hence, &c.

Again, since the angle BAD is obtuse, the angle ADB is acute, and it is in a segment $ADCB$ greater than a semi-circle. Hence the second case is proved.

R. TUCKER.



24 Hillmarton Road, N.W.
December 6th, 1892.

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THE EDUCATIONAL TIMES.

LONDON, JANUARY 1, 1893.

It is encouraging to find that teachers are at length awake to the necessity of making up their minds, and setting forth their views, on the question of the now fast-approaching organization of secondary education. They have come to see that it will not do to wait until a Bill on the subject is definitely before Parliament. Their duty is to help the public to form sound views. When a Bill once gets before the House of Commons, its lines will be discussed from a point of view other than pedagogic, and its proposals accepted or rejected on grounds not solely, or even mainly, educational. Members of Parliament should be thoroughly informed, before the Bill is finally drafted, as to what teachers think and desire. The various associations of teachers have, therefore, acted very wisely in discussing the crude and roughly-drafted proposals introduced last session by Mr. Acland and Sir Henry Roscoe, and in formulating their opinions. The College of Preceptors is at present very carefully discussing the subject, and will shortly make its views public. But we must not stop there. We must take steps to ensure that Members of Parliament shall know, clearly and definitely, what our views are. Meanwhile, it will help some of our readers, we hope, if we briefly set forth the opinions held by many leading schoolmasters and schoolmistresses on the organization of secondary education—rather as affording topics of discussion than as being intended to urge the adoption of such views, or to foreshadow, in any way, the opinions either of the College or of any other body of teachers. It is always well to know what others think, even when we do not agree with them—perhaps more particularly when we do not agree.

At the outset, perhaps, it will not be out of place to note the strong opinion of many educational reformers that a sound Registration Bill is of much greater importance, of much more urgent necessity, than any Organization Bill. These practical educationists look forward to the time when a date will be fixed after which no unregistered teacher shall be newly appointed to any endowed school, or school in receipt of public money, or private school desiring to be considered efficient. The proceedings of the various associations which are composed either entirely or partially of masters and mistresses of private schools, clearly show that these teachers are almost unanimously of this opinion—that the Registration of qualified teachers is the most important matter. Indeed, many teachers are of opinion that, if a good Registration Bill were carried, such legislation as that indicated in Mr. Acland's Bill would become unnecessary. It must be admitted, however, that there needs an adjustment of means and of school accommodation. Some towns and districts—like Bedford, for instance—are richly provided

for, others have a most inadequate provision for education of a grade above that of the Board Schools. The inequality would have been infinitely greater but for private enterprise, which, operating by natural laws, has stepped in and supplied efficient schools.

If it must be admitted that an Organization Bill for the purpose of securing this adjustment is inevitable, then it is thought that it would be wiser and more politic, instead of beginning with a large comprehensive scheme of organization, to begin in a more restricted and tentative manner. Let us ascertain what local needs really exist, and, if neither private benevolence nor private enterprise supplies what is needed, let us endeavour to do this by public means. To ascertain these local needs, a Royal Commission would be too expensive and too slow. Local committees would be better; and these might very well be committees of County Councils or Local Government Boards, strengthened by a certain number of persons of educational skill and experience. But a strong central body would be required to economize and harmonize their efforts, to decide on the adequacy of the local supply, to revise and sanction and to draft schemes, and to prevent unfair and factious treatment of endowed and private schools, and anything in the nature of persecution, political, social, or religious. As to the constitution of this central body, opinions differ; but all are agreed that the Education Department alone, in its present form, would not do. The central body might, in the first instance, be appointed for a certain term of years only, and later on be merged in a more broadly organized Educational Council, such as was sketched in the Registration Bills. Many feel very strongly that the preponderating part of this Council, in so far as it would deal with Registration and training, must *not* consist of Government officials—otherwise teachers will never be formed into a liberal profession.

Again, it will not do for the committees of County Councils to become the governing bodies of any schools that may be created under the new authorities, if for no other reason than that they would lack the essential characteristic of permanence, and would be too political. The governing bodies should be definitely and specially appointed for that purpose, and for a period sufficiently long to prevent discontinuity. The cost of establishing, and in part of maintaining, the new schools, should be defrayed partly by the local taxation money lately handed over to County Councils, partly by available local endowments, and partly, if necessary, by a local rate—of course, also partly by fees. Under this last head there would have to be some stringent clauses, to prevent the underselling of really efficient private or endowed schools without compensation in one form or another, when these are of sufficiently long standing. These clauses will no doubt be very difficult to draft, so as to avoid all chance of their being abused. But this is a matter rather for lawyers than for teachers. Perhaps the local governing bodies might be compelled to purchase efficient schools of sufficiently long standing, if the owners of them were willing to sell, and could show that they were being seriously injured.

This brings us to the question of *efficiency*. What are to be the tests? Certainly not those at present applied to elementary schools, is the almost universal answer—sometimes given with such an emphasis as to leave no doubt as to the

speaker's *feeling*, as well as his *opinion* in the matter. Most of us would be satisfied with the following safeguards:—(a) Sanitary inspection; (b) the publication of examination reports made by authoritative bodies, such as the Universities, the College of Preceptors, &c.; and (c) the publication of complete and true information as to curriculum, time devoted to each subject, number of pupils in a class, classrooms, playgrounds, fees, and staff—in the last case, the *professional* qualifications as well as the general attainments of the teachers, being given. It would be only just that any endowed or private school submitting to these tests, with results satisfactory to the central body, should be considered and treated as efficient, and should enjoy all the privileges, as to scholarships, exhibitions, &c., which the newly-created schools enjoyed; and, if all parties interested consented, and so desired, any such efficient school should be taken over by the local governing bodies, who should have powers, like those under the Elementary Education Act, to purchase sites, &c.

DURING the first week of December, the columns of the *Times* were enlivened by a short but vigorous correspondence between Professor Karl Pearson, the late Secretary, and Professor Huxley, the actual President, of the "Association for Promoting a Professorial University for London." The letters are, as may be easily imagined, both interesting and instructive, while they indicate a state of affairs which is not without an admixture of grim humour. It appears that, for reasons not clearly stated, but sufficiently obvious, Professor Pearson resigned his office on the 1st of December; and on the second he published an "open letter," ostensibly addressed to the Right Hon. the President, but really intended for the public, in which he labours to justify his resignation. We must say that such a justification was scarcely necessary. If those of us who have watched the birth and growth of the Association feel any surprise at all, it is on the ground that he should have retained office so long. Almost from the moment when the Association ceased to consist of Karl Pearson alone, there must have been within that august body a "little rift," which was perhaps unsuspected at first, but which has grown and widened into a huge fissure, bisecting the whole, or at any rate the Executive Committee, into two not quite equal fragments. One of these is, at present, made up of Professor Pearson alone, and the other—is not. But consistency, and infallibility, and the right to execute swift judgment upon a dissenter, even though it be not *he* who dissents, always, of course, go with numbers. Hence we have the rare treat of seeing the President come out in all his (metaphorical) paint, execute a war-dance round his late colleague, and, after "prodding" him on all sides, aim at him a *coup de grâce* with his stylographic tomahawk, as thus: "Unfortunately, there is among them [the Professors] a fair sprinkling of one-idea'd fanatics, ignorant of the commonest conventions of official relation, and content with nothing if they cannot get everything their own way." But this dire blow might have missed its mark, had not Professor Pearson, with the true spirit, and, may we add, the indiscretion, of a martyr, too meekly welcomed it.

For our part, although his way of looking at the University question is not our way, we confess to considerable sympathy with Professor Pearson. He, if anybody, is to be

regarded as the originator of the Association; and, indeed, in his second letter, he himself takes credit for "bringing a number of distinguished names upon the same sheet of paper." His idea of a University for London was well known. His "Professorial University" was to be an out-and-out affair, fashioned upon the best German—and in particular, the Berlin—model. The ultimate control would, in such case, rest with the Imperial Government alone; the immediate direction and administration, as well as the right to teach, examine, and confer degrees, would be entirely in the hands of the professoriate. Now there was reason to suppose—and it was, in fact, generally supposed—that the ideas of the people whose "distinguished" or other "names" were likely to be brought upon the Professor's "sheet of paper" would be similar to his own. But by those who scrutinized the lists of names, as published from time to time, such a supposition was no longer tenable; and they probably felt, as they had never felt before, the point of the satirist's curiosity about the fly in amber. We are not alluding so much to the names, *undique conflata*, of people who could not be expected to have any great interest in a University for London, as to names of persons who were known to have expressed such interest, but whose views were imagined to be not quite the same as Mr. Pearson's—those, for example, of certain graduates and Fellows of the existing University. On the Executive Committee itself we discover four London Fellows (including the President) and four graduates, one of whom is even suspected of being a paid official of Burlington Gardens. The intentions of these gentlemen were, no doubt, excellent—paving-stones of the best quality; but their subconscious tendency was bound to operate, and they have gradually floated off in a direction to be indicated in a moment. The late Secretary, meanwhile, stands where he did, perhaps often repeating *Æneid* ii. 49, turned into the pluperfect optative, but comforting himself with the example of Abdiel. At any rate, he must feel that his scheme, which was to have gone up like a rocket and dazzled the nations, is likely to die out in a premature "fizzle."

Probably, however, he was prepared for difficulties. His type of University, excellent as it may be, requires for its realization that the ground be clear. Now the ground is not clear, nor do we live under a despotic government which, in four-and-twenty hours, would clear it. This is the consideration which has, apparently all along, weighed with the majority of all but one in the Committee. This supplies the kernel of Professor Huxley's lengthy reply to Karl Pearson, as is shown in the following short paragraph:—"The Association proposes that there should be one University in London, and, as I suppose it cannot be seriously intended to suppress the existing University, the only alternative is to incorporate it with the new elements;"—an excellent and sufficient programme for an "Association for Reconciling the Contending Interests affected by the University Question in London." The only doubt we harbour is, whether the devotees of such a creed were ever in their right place as members of an "Association for Promoting a Professorial University."

Nevertheless, from our own standpoint, all is going well. We fear we cannot pay Professor Huxley the high compliment of ranking him among the regular readers of the *Educational Times*; but, if he had been, he could scarcely have expressed more exactly the very core of our policy in regard

to the University question:—One University for London; the work of the present University to be perpetuated; and the harmonizing of these fundamental conditions to be a matter for practical statesmanship. If this be laid down as the leading "plank" in their policy by the Association, it will, in the first place, serve as a gangway for an approximation towards the powers-that-be in Burlington Gardens; and, in fact, we gather from the correspondence that these authorities have themselves already made some little corresponding movement:

"The U—— made one, the A—— made two,
Two little steps half-way";

but how far each may still be from the meeting-point of embrace we cannot tell. There are mysterious allusions, however, in the letters, on the one hand, to "Resolutions of a Committee, which had not yet come before the Senate"; on the other, to a deputation from the Association, which was to, and perhaps did, go to the University on December 7th, presumably for conference and discussion; and this is how Professor Pearson, possibly with pardonable exaggeration, bluntly indicates the situation: "I object to the Association becoming a mere instrument for carrying out the policy of Burlington Gardens, as I should object to its carrying out the policy of any collegiate body. A deputation to Burlington Gardens to explain our own scheme was an excellent idea, but to go there in order to approve another scheme was *ultra vires*."

In the second place, and finally, the prospect of an understanding between the University in possession and the most powerful of the voluntary associations outside, cannot fail to attract the notice of the Commission now sitting; and, if the prospect should become a reality, it may fairly be expected that the Commissioners' Report will be affected by their knowledge of what will be acceptable to the various parties chiefly interested.

WHATEVER Archdeacon Wilson, ex-Headmaster of Clifton School, writes, is always well worth reading, and deserving of more than a passing attention. His article in the *Contemporary Review* for December, on elementary education and voluntary schools, is no exception to the rule. He deals with two questions: religious teaching in Board schools, and rate-aid for voluntary schools. He thinks that public opinion on these questions is formed slowly, and at the present moment is slowly forming.

"Ten years, twenty years," he says, "may pass in the mental history of the 'colossal man,' the English people, and see but a slow ripening and maturing of his judgment. He must sleep upon it: he will tell you in a week or so; but his days are years, or even decades of years. An unconscious cerebration goes on; he has his business to do; and business is anxious work just now, and a thousand other affairs are in his mind; but, meantime, he is maturing. He is a great silent creature. The men who pamphleteer, and speak, and preach, and write letters, are not he; even Parliament is not he. He is not Church, he is not Nonconformist, still less is he secularist; nothing that you can name is he."

What does Archdeacon Wilson think the silent creature has been doing of late years? Gradually arriving at two ideals: a first-rate and universal national system, and a thoroughly Christian education, with the personal influence of kindly teachers. He asks: "Where do these ideals con-

flict or diverge?" and shows that they neither conflict nor diverge of necessity. It is their combination in actual working that makes a public school good and great. If a man comes to a public school who cares unwisely for the second without the first, or cares feebly for the first without the second, or who cares for neither, down falls the school.

Archdeacon Wilson argues that poor parents, whose feelings in this matter are precisely identical with those of the classes above them, should likewise see their ideals harmoniously satisfied. While admitting that voluntary schools do not fully satisfy the one ideal, the Archdeacon contends that Board schools do not fully satisfy the other, whereas both ideals might be realized by fully utilizing existing machinery.

The Archdeacon deduces an overwhelming argument for the hearty national support of voluntary schools, from the very creed of liberalism. The essence of liberalism is, he says, the proclamation of the right of all to share in the whole range of the heritage of man; and the noblest of all our heritages is the heritage of Christianity. Hence he would allow the teachers full liberty to teach Christian truth. He does not believe that teachers having such liberty would abuse their liberty, or that children would be affected by the extreme views of exceptionally fanatic teachers. He can trust children's taste, on the one hand, and the teachers' good sense, on the other. He claims for ratepayers that they should have a share in the educational rate without sacrificing their religious preferences in the education of their children. "There should be no disability for conscience' sake."

The plan the Archdeacon propounds, in the end, if adopted, would secure to voluntary managers the selection of teachers and the supervision of instruction, and to the ratepayers complete control of the expenditure from the rates. He believes it is some such plan as this that the "great silent creature" will ultimately insist on, and he therefore counsels the hesitating and the disheartened amongst voluntary managers, to "hold on" to their schools until the day of awakening arrives.

REVIEWS, NOTICES, &c.

The Algebra of Coplanar Vectors and Trigonometry. By R. Baldwin Hayward, M.A., F.R.S. (Macmillan.)

There is an appropriate dedication to this important work, which reads as follows: "To the memory of Augustus De Morgan, formerly Professor of Mathematics in University College, London, to the spirit of whose teaching and writings the author, once his pupil, would ascribe whatever of merit is to be found in the following pages."

It is a tribute to the value of the higher University teaching, which London is now feeling the want of, as well as to the individual genius of the particular professor concerned, when we find his pupils doing as De Morgan's have done, thinking out further the theories and views he introduced to them, and preserving, through a long academical career, the feeling of indebtedness for his inspiration. The preface informs us that "the present work is an attempt to supply the place of the 'Trigonometry and Double Algebra' of De Morgan, which (published in 1849) has long been out of print, and is now difficult to obtain."

It is in no sense, however, a reproduction of that work. De Morgan, in the first part of his book, treats of trigonometry on the usual lines of the geometrical definitions, and, in the second part, shows the full significance of the results in the light of his "Double Algebra," or what is now often referred to as the Argand interpretation. In the present treatise, starting from the conception of vector, that is, a magnitude involving the

two elements, length or quantity, and direction, it is shown that, limiting the directions considered to one plane, we arrive at an algebra identical in all respects, as to its laws, with the ordinary algebra developed from the notion of number, or magnitude involving the single element quantity; but with this difference, that the former involves no unexplained symbols, or, as they are commonly termed, "impossible" or "imaginary" quantities. Trigonometry follows naturally as the most important corollary or application of this algebra, and this sequence is adopted and expressed by the title, *The Algebra of Coplanar Vectors and Trigonometry*.

De Morgan says in his preface: "The term double algebra has not yet obtained currency," and Mr. Haward thinks the same may still be said. He, therefore, uses the longer term, "the algebra of coplanar vectors," as expressing more explicitly the extent and scope of the algebra here developed.

The introduction contains an interesting piece of history:—

"In the year 1805 there was printed at Paris an *opuscule*, entitled 'Essai sur une manière de représenter les Quantités Imaginaires dans les constructions Géométriques,' without the name of the author, but to be obtained 'chez Madame Veuve Blanc, Horloger, rue S. Honoré.' The work appears to have remained unknown—at any rate unnoticed—by mathematicians, until there appeared in the 'Annales de Gergonne,' Tome IV., 1813–1814, a note by J. F. Français on the same subject, which elicited from M. Argand a letter, addressed to M. Gergonne, accompanied by a copy of the 'Essai,' with this alteration in manuscript on the title-page: 'chez M. Argand, rue de Gentilly, N° 12.' The letter, which was published in Tome IV. of the 'Annales,' contains a summary of Argand's 'Essai,' and was followed, in Tome V., by an article further developing his ideas."

It was, no doubt, the recognition of the form of expressions such as $m(\cos \theta + \sqrt{-1} \sin \theta)$, into which a quaternion may be decomposed, that led to the taking of $\sqrt{-1}$ as a general symbol of rotation through a right angle; and it is clear, from the "Essai" referred to, that Argand can claim the honour of being the true founder of "the theory of complex quantities in one plane."

The chapters of the work treat in succession of: I., vectors and vector aggregation, an appendix explaining the relation of the vector magnitudes of mechanics; II., multiplication of coplanar vectors; III., trigonometrical ratios; IV., De Moivre's Theorem; V., vector indices and logarithms; VI., excircular or hyperbolic trigonometry; VII., roots of unity; VIII. to XI., series summations, factors, and rational and integral functions. So clearly and carefully is the whole worked out and explained, that any one with an ordinary knowledge of elementary algebra and trigonometry will have no difficulty in mastering it from beginning to end.

The Building of the British Isles. By A. J. Jukes Browne, B.A. (George Bell & Sons.)—Some little time since, we had the pleasure of reviewing Professor Seeley's "Handbook of the London Geological Field Class," and we then called attention to the great advances that were being made in the teaching of geology. We may, perhaps, take the opportunity presented by the publication of a second edition of the work of Mr. Jukes Browne, to point out how, in another direction, this science is amenable to really interesting and intellectually valuable treatment. The study of geology in the school too often passes through two phases. In the first place comes the physiography, the interpretation of the general facts of rock texture and structure from existing conditions, a study full of interest and sweet reasonableness. And then follow the "Formations." The latter half or two-thirds of the common geological text-book is occupied by an awful succession of lists of beds and fossils, conveying only despair to the mind of the intelligent pupil, an indigestion of unassimilable organisms, a nightmare through which archæoptery and the pterodactyls flit, and the skeleton ichthyosaurus and iguanodon appeal for a living exterior in vain. The science, after a sane and propitious beginning, seems to go suddenly mad. To the average schoolboy or schoolgirl, stratigraphical geology, as it is usually taught, is not realizable nor credible; it has the general effect of extravagance; and, to the present writer, at one time, it almost seemed that it were best not attempted. But Professor Hull, by his "Physical History of the British Isles," and the excellent work under consideration, has suggested a solution of this difficulty, by treating geology as geographical history, directing attention to the evidence of distribution and texture, and relegating fossils to a quite subordinate position. The construction of such maps of past geography as illustrate this book,

from purely geological maps, cannot fail to stimulate the imagination, and must do a very great deal indeed towards really animating the dreary succession of dyassic, triassic, liassic, jurassic, and all the other formations, of the text-book. We do not suggest the use of this book, or even of its order, for class use, but it appears to us to be exactly the kind of work a geological teacher should read as a stimulus, and have at hand in the arrangement of his lessons. The more advanced student of geology will also find this volume a remarkably vivifying commentary upon his stratigraphical work, if read side by side with his ordinary text-book. It is some time since we have read a book for review with so much pleasure as this has afforded, not only on account of its intrinsic value and interest, but also as a solution of the problem how the interminable succession of sand, clay, limestone, marl, gravel, sand, and clay, may be invested with a sustaining interest, and redeemed from its present presentation as a pure catalogue of superpositions.

A School Introduction to the Commercial Sciences. By E. E. Whitefield, M.A. (Pp. xvi., 304, 8vo. Percival & Co.)—The author states in his preface that "there exists a group of studies, of no less educational than practical value, which Continental rivals designate *Handelswissenschaften*, or *sciences commerciales*; and that the intellectual training, as well as knowledge, which such subjects afford never was nor could be obtained in the routine of any isolated business." It is something new to have the high intellectual value of these studies insisted on as a whole, and it is fitting, in a journal devoted to the interests of general or school education, to examine to what extent the claim can be allowed. There can be no doubt that economics, especially as taught without books, in the form of question and answer, by William Ellis and two or three of his disciples, is a most valuable and interesting branch of school study; but such teachers are, at present, few and far between, and in the hands of an ordinary teacher there is hardly any subject more dull and useless. The history of commerce, and commercial geography (especially if taught with the help of a commercial museum), may more hopefully be introduced into the curriculum of an ordinary school. The ability to balance a set of accounts, of course, involves a mental discipline of the highest value to the future man of business. Of shorthand, it is impossible to speak as decidedly. In the time that can be spared for it in the ordinary school, boys may easily learn to write so many words a minute; but the ability to decipher what they write does not always correspond. Without treating any of these subjects at large, the author has much to say that is interesting with regard to all of them, and makes a laudable attempt to guide the student to the best literature in each case. We have taken a novel course with regard to the rest of the book, preferring to have a commercial rather than a scholastic judgment passed upon it. We have submitted such parts as Lessons XXIII., XXVII., XXVIII., XXIX., dealing with such technical subjects as Charter-parties, Exchanges, Insurance, Stock Brokers and Stock Jobbers, and the like, to a friend who for thirty years has been a cashier in a large City house, and has in that time trained many generations of young clerks and business men. He has read the sections indicated, as well as others, with great interest; and finds everything therein correctly stated. But when asked if he regrets that he did not learn all these matters at school, and if he would prefer that his young clerks should come to him already primed with all this body of knowledge, he answers only with a laugh. "Why!" he exclaims, "it would be like learning geology with no opportunity of doing any field-work, or like learning botany in a land where there are no flowers." These technical subjects, he considered, should be learnt in continuation classes, when the clerk has already commenced business life. And in case a business college were in use, he cited instances to prove that the student would profit more by it after a year in the counting-house or in the warehouse than if he went to it direct from school. It may not be without interest to add that of many German clerks who have applied for situations in this particular house, which has to do with home trade only, not one has been found sufficiently quick and capable. They were slow writers and slow calculators; and in everything but knowledge of foreign language fell distinctly below their English competitors. The seven pages of appendix, dealing with the bibliography of commercial subjects, would be much more useful if the price were given of the works recommended. We have noticed three or four instances of clumsy English and of loose construction. The opening sentence in the preface is, for instance, a good example of what to avoid in English style.

A Short Historical English Grammar. By Henry Sweet, M.A.

L.L.D. (Extra fcap. 8vo, pp. 264, price 4s. 6d. Clarendon Press.)—This small book consists of the last two-thirds of Vol. I. of Dr. Sweet's "New English Grammar," slightly abridged. It deals with the history of English phonology, accidence, and composition, and derivation. Dr. Sweet, in his preface, says: "It does not include syntax, for the good reason that a grammar which attempted to deal—even if only superficially—with such a vast and difficult subject as historical English syntax, could not possibly be designated as a 'short' grammar." To which we rejoin: Very well; we quite agree that, for adequate treatment, every subject has its irreducible minimum of size; but, then, do not call your book an *Historical English Grammar*, if you must omit syntax. Call it "Historical English Accidence and Word-formation"; for "grammar," as generally understood, includes syntax. We are, however, entirely at one with Dr. Sweet in his omission of Grimm's Law and Verner's Law, and the rest. These are not for beginners, for they require, at least, some knowledge of other languages besides English, and they belong to comparative philology, and not to English grammar pure and simple. This is all we need say here, for we have quite recently noticed the larger book at some length. Within the limits indicated, the book before us is excellent in every way; while few, we think, will very deeply regret the necessity which has caused the omission of the earlier sections of the larger grammar.

Beetles, Butterflies, Moths, and other Insects. By A. W. Kappel and W. E. Kirby. (Cassell.)—The chief merit of this book resides in its ten beautifully-coloured plates of European insects, and in its cheapness. It will make a handsome and acceptable present for any small entomologist troubled about the identification of his victims; and it may also be found useful by the teacher who is not himself a naturalist, but who is interested in the collections of some budding Wallace in his care. There are also good practical directions for the capture and mounting of specimens. We are glad to see that the butterflies and moths are relegated to their proper share in this book, and that the equally beautiful and more instructive and interesting coleoptera, neuroptera, and hemiptera are well to the fore. A possible objection to the plates, however, is the absence of any indication of the scale to which the figures are drawn. Perhaps, also, too much prominence is given to the classification. The authors must be aware that their seven orders of insects have long since gone into the melting-pot of morphological criticism. The educational value, at least, of this book would be much enhanced if the classification came at the end, instead of at the beginning. The present arrangement renders the book merely useful for the "young collector's" reference. A more inductive treatment might make it also very efficient in the young collector's education.

Experimental Evolution. By Dr. de Varigny. (Macmillan.)—This book embodies the substance of a course of lectures delivered before the Edinburgh Summer School of Science and Art in 1891, and includes a large amount of information, some of it new to English readers, bearing upon the questions of inheritance and variation. It is particularly readable and interesting in the sections dealing with domestication and selective breeding. But the general effect of the book is greatly impaired by the rhetorical spirit in which it is written. M. de Varigny goes outside his question to discuss the existence of a Creator; and he attempts to give his book a coherence and symmetry it does not naturally possess, by treating it as an examination of the evidence for evolution. He comes to the remarkable conclusion that evolution is not proved until we can experimentally evolve from some animal a quite distinct species. He proposes to do this by "transferring animals and plants from one country to another, or from mountains to plains, or *vice versa*, from dry to moist soil, from cold to warm, from calcareous to siliceous soil, from one pond in one sort of soil to another pond in another sort of soil, from light to semi-darkness, from land to water." &c. So far as the animals are concerned, this opens up a great vista of discomfort, misery, and pain. Now, no living naturalist of any eminence questions the general statement of the theory of evolution, and so we presume that M. de Varigny is led to propose all this suffering by his sense of logical necessity, or with the view of convincing those incapable of appreciating the existing evidence. In the latter alternative, we would protest against the implication that scientific research is propaganda, or that its privileges may be extended to that end. In making these criticisms of M. de Varigny's treatment, we would have it clearly understood that the central mass of his book is extremely readable and attractive, and presented in a manner that should fit it admirably to the requirements of the general reader.

The Visible Universe. By J. Ellard Gore. With Stellar Photo-

graphs and other Illustrations. (Small 4to, pp. x., 346. Crosby Lockwood.)—The alternative and explanatory title of this book is *Chapters on the Origin and Construction of the Heavens*. It is not exactly a popular book on astronomy, and yet it is hardly a book for the special student; it is rather a book for an intelligent, thoughtful reader, who, without being a specialist, is anxious to know something of the main results of observation and experiment and constructive interpretation of the phenomena of one of the most interesting of the sciences. That Mr. Gore has himself contrived to be interesting, however, is more than we can say. The book lacks vitality and vividness; but he is evidently well read in his subject, and has shown sound judgment in his selection of topics, and of how much and what to report concerning them. The first four chapters supply a general account of the various theories which have been formed to explain how the solar system came into its present state, and the origin and maintenance of the sun's heat. Then follows a chapter on luminiferous ether; another on the constitution of matter; and the next on what Mr. Gore calls "celestial chemistry," or the processes and results of spectrum analysis. The last of these is particularly disappointing, inasmuch as we are not made to understand how the extreme difficulties of the investigation were overcome, and are being overcome. It lacks imagination. Chapter VIII. deals with the meteoritic hypothesis; and then we have the Milky Way, clustering stars, stellar distances, and so on—or, briefly, the construction of the sidereal heavens, and the various theories (from Kepler to Struve) concerning the constitution of the universe, which have been advanced by astronomers of eminence. An appendix of sixteen pages supplies us with various statistics and detailed calculations referred to in the text. We may add that the illustrations and diagrams are numerous and good; and that the book is well printed on good paper. That *The Visible Universe* is of value we cannot doubt, but it lacks that sympathetic imagination without which books on science are apt to be a trifle dreary, and with which even the most matter-of-fact science becomes a veritable peep into wonderland.

Introductory Science Text-Books.—*Mediæval History: Empire and Papacy in the Middle Ages.* By Alice D. Greenwood. (Crown 8vo, pp. xi., 227, price 3s. 6d. Swan Sonnenschein & Co.)—Miss Greenwood, who is an assistant-mistress at the North Manchester High School for Girls, describes her book as "an introduction to the study of mediæval history, for use in schools." We are afraid that not even girls' schools—notable as they are for the variety and comprehensiveness of their curricula—are likely to think they have time for mediæval history. But, should any school chance to do so, we can recommend her "introduction" as both well-informed and accurate, and excellently clear, both in statement and in style. The period covered is that from about the middle of the fourth century to about the middle of the fifteenth; and all the leading points and lines of development are well brought out. Evidently Miss Greenwood has read and studied her subject with care; and, though she makes but little claim to original investigation, her treatment of what she has learnt is bright and fresh, and interesting. Of course, compression has been necessary, as well as the omission of all subsidiary details; and it is almost inevitable that, in consequence, here and there, though only very rarely, a wrong impression may be conveyed. For instance, to speak of Latin as the "universal language," needs qualification, and it is very misleading to state that in the middle of the fifteenth century every nation in Europe had a literature of its own. Of course, Miss Greenwood means "had the beginnings of a literature"—but it is ungracious to find small blemishes in the marble when the statue is so good. We cordially recommend *Mediæval History* to our readers; and let us add that it will make a capital subject for a holiday task.

An Anglo-Saxon Reader. Edited, with Notes and Glossary, by James W. Bright, Ph.D. (Crown 8vo, pp. viii., 385. Swan Sonnenschein & Co.)—Mr. Bright is an Associate Professor of English Philology at the John Hopkins University, and his book is intended to serve as an introductory course in Anglo-Saxon. He gives us 198 pages of text, 34 pages of notes, 165 double-columned pages of glossary, and a short appendix on Anglo-Saxon versification, based on the researches of Sievers. The notes are almost wholly textual and linguistic, and do not seem to us either very useful or very interesting. We have not come across any trace of literary appreciation in them, which perhaps is not much to be wondered at, seeing that a good third of the texts, however valuable from a linguistic point of view, have little or no claim to be considered as literature. The glossary is a very thorough and creditable piece of work, and, we are told, "has

been constructed so as both to facilitate the use of a grammar and to reduce the necessity of grammatical notes"—with results, we may add, quite satisfactory. The texts appear to be carefully edited, and are certainly very clearly and carefully printed; while the grading of difficulties, when the differences of dialect and the orthographic variations are considered, is on the whole satisfactory. Taken altogether, this is the best Anglo-Saxon Reader with which we are acquainted, though in some respects it does not come up to Dr. Sweet's well-known book.

OUR LIBRARY TABLE.

The English Historical Review, No. 28, Vol. VII., October, 1892. (8vo, price 5s. Longmans.)—The *Review* keeps up its interest with striking success, which does the editors no small credit. Nor does the value of the contents to the student suffer, in any way, in consequence. The articles in the number before us are: "Gerbert, Pope Sylvester II.," by Roland Allen; "The Church of the Resurrection," Part II., by Rev. J. R. Macpherson; "Clerical Preferment under the Duke of Newcastle," by Miss Bateson; and "Ferdinand Gregorovius," by Signund Münz. The first-named of these gained the Lothian Prize at Oxford in 1891. Amongst the "Notes and Documents," the most interesting seem to us a letter concerning Bishop Fisher and Sir Thomas More, in all probability by a monk of the London Charterhouse (1535), edited by Mr. James Gairdner, and some unpublished letters by Archbishop Laud and Charles I., edited by the Rev. W. H. Halton. We are also given reviews of some thirty books, all excellently dealt with, a few short notices, and the usual carefully compiled list of historical books recently published, and contents of periodical publications. Altogether he must be a peculiarly ill-tempered and dyspeptic person who does not find much both to instruct and to interest him in these two hundred and ten well-printed octavo pages.

The Eighth Book of Thucydides. Edited, with Introduction, Commentary, and Critical Notes, by T. G. Tucker, Litt.D. (Macmillan.)—This edition is primarily intended for students in Universities and the upper classes of schools, but the critical portion of the work, on which great pains have been bestowed, and the mass of new matter in the commentary, which extends through one hundred and seventy pages, will well repay the attention of advanced scholars. The introduction deals with the genuineness of the work, which is soon established; the text of Thucydides, and particularly that of the eighth book, interpolations, forms, and orthography, and a record of readings. The printing of the text, as in all the volumes of the Classical Series, is all that can be desired. The four indexes will be found by no means the least helpful portion of the book.

Hygiene. By H. Rowland Wakefield. (Blackie.)—This is one of the very best elementary text-books of hygiene. It is clearly and sensibly written, up to date, and well illustrated. The chapters on construction of dietaries, school epidemics, and school furniture, are especially excellent.

The Century Geographical Readers, Standards I. and II. (Blackie.)—This is the child's first step in the study of geography. It gives the necessary groundwork of the science, in language simple enough to be easily read and understood by young children, and in a form calculated to attract them from the outset. It is really a series of pleasant reading lessons, chiefly in dialogue, on the cardinal points, and the use of a map and a plan, but the teaching is rendered pointed and forcible by numerous pictorial illustrations.

Notes for Lecture on "Simple Woodcarvings." By Eleanor Rowe. (R. Sutton & Co.)—These *Notes* form the basis of a very interesting lantern lecture, which might well be given to all elementary woodcarving classes.

Lessons in Elementary Algebra. By L. J. Pope, B.A. First Series, up to and including Simple Equations and Problems. (George Bell & Sons.)—In twelve lessons, the writer gives, in as short and compact a form as possible, the definitions and rules in algebra up to simple equations. Each rule is followed by model examples, and exercises for practice. To each exercise the answer is appended; but we can scarcely agree that "the disadvantages of such a method are outweighed by its great convenience."

Guides to the Science Examinations: (1) *Theoretical Mechanics.* By R. H. Pinkerton, B.A. (2) *Botany.* By James Swanson, M.A., M.B. (3) *Applied Mechanics.* By D. A. Low. (4) *Physiography.* By W. Jerome Harrison. (5) *Alternative Chemistry.* By W. Jerome Harrison. (Blackie.)—All of these belong to a series of *Guides* to the different examinations of the Science and Art Department. Each contains hints how to work the papers, and answers to questions set during the last few years. Each, too, costs sixpence, and may be used as a companion to the corresponding work in Messrs. Blackie's series of science text-books.

Algebra for Beginners. (Blackie.)—This book follows the syllabus of the first stage of mathematics in the examinations of the Science and Art Department, but contains, in addition, a section on square root. All explanations are simple, and are enforced by abundant illustrative examples. Test papers for revision, and answers, are appended.

Euclid and Mensuration for Beginners. (Blackie.)—This book contains the first two books of Euclid's "Elements of Geometry," after Dr. Thomson's text, with exercises on the same, and in mensuration. The rules to the latter are given without theoretical explanation, but are illustrated by figures where necessary.

Watton's Eminent Men of Modern Times. (Whittaker.)—On one sheet, which folds into stiff covers, we have here short lives of about fifty eminent men, but as the selection has been made from the early part of the fifteenth century to the present it must of necessity be far from complete.

History Readers: The Stuart Period (1603-1714), with Biographies of Leading Persons, and with additional chapters on the Constitution and Functions of Parliament. A Reading Book for Standard VI. (Macmillan.)—The great improvements that have of late been effected in the production of Readers are evident in the series of historical Readers to which the volume before us belongs. Typography and paper are excellent, and the subject-matter is sure to stir the imagination of the sixth-standard pupil. But the most striking feature of the book is the illustrations, which are well produced, and have been selected with considerable judgment and care. All are taken from existing prints or portraits.

An Introduction to the Study of Botany. By A. Dendy, D.Sc., and A. H. S. Lucas, M.A. (Melville, Mullen, & Slade, Melbourne.)—This is a clear and useful introduction to elementary botany, emanating from Melbourne University. The authors' illustrations are original and very satisfactory, and their treatment of such a difficult point as the masked alternation of generations in the phanerogams distinctly good and convincing. The systematic treatment of the flowering plant has especial reference to the Australian flora. The entire book is simple in treatment, without inaccuracy or confusion; and we think the biological students of the Antipodes are to be congratulated upon their teachers, if this and Parker's "Biology" are fair samples of their work.

Cassell's New Technical Educator. (Cassell & Co.)—This new cyclopædia of technical education, now appearing in monthly parts, price 6d., is an immense improvement on the former. It is not simply a new edition, it is an entirely new work. The articles are all written by authors and teachers of practical experience in this particular branch of education. New coloured plates are added, and the size is reduced to the more convenient form of the "New Popular Educator." With Part I. there is issued a large and striking reproduction of "The Industrial Arts applied to Peace," by Sir Frederick Leighton, P.R.A., reproduced from the fresco at South Kensington; and the part will also contain a coloured plate of the Bessemer steel process. The first two parts have evidently been prepared with great care, and are fully abreast of the requirements of the present day. If the same characteristics be maintained throughout, the work will be a useful guide in technical education.

Introduction to the Study of Elementary Biology. By Dr. H. J. Campbell. (Swan Sonnenschein.)—This is the first text-book that the new biological syllabus of the Conjoint Boards has, to our knowledge, evoked. The examination is essentially a written one, with a kind of rudimentary practical test in human osteology. The wording of the syllabus is vague; and certain parasitic, and quite aberrant, types have been selected by the Conjoint Boards to elucidate the principles of biology. Under the circumstances, Dr. Campbell's book has necessarily become a cram-book, a book out of which phrases and sentences may be learnt, to be written down on paper. It is, in its limits, a good book, reliable in its statement of fact, and well illustrated. Its demerits are not faults of Dr. Campbell's, but of the illiberal syllabus for which he has seen fit to write. It will probably serve its purpose. But, when a sound method of biological study has been formulated by Professors Huxley and Howes, we must be excused for expressing any feeling but regret at this harbinger of the retrogression of biological teaching.

The Problem of Reality. By E. Belfort Bax. (Cr. 8vo, pp. 177. Sonnenschein & Co.)—The title-page of this book further describes it as "being outline suggestions for a philosophical reconstruction." Our readers, who know Mr. Belfort Bax mainly as a writer on socialistic matters, will, we fear, be a little disinclined to follow him as a guide in determining what is "reality." And the preface will not encourage them to proceed, for its tone frequently reminds us of that of an open-air speech in Hyde Park on Sunday afternoon. With the book itself, however, we do not think that they will have any grave cause for dissatisfaction—if they care for such problems—for it is undoubtedly written with ability. For ourselves, we feel too little interest in the problems of metaphysics to be able to do the book justice, and the new-fangled words (e.g., *thoughtfulnessness*), which we have constantly stumbled upon, have completed our discomfiture. Others must decide whether the book is really worth reading or not.

New Vegetarian Dishes. By Mrs. Bowdich. (George Bell & Sons.)—We have heard that those who have to live according to the recipes given in many vegetarian cookery books are turned meat-eaters. Mrs. Bowdich's book does not come under this category. It contains 221 recipes, almost all original, with hints on the making of soups, stews, fritters, savouries, soufflés, curries, vegetables, sauces, salads, pies, puddings, and fruits, and will be welcomed by vegetarians, and those who have to cater for this class.

The Art of Sketching. By G. Fraipont. Translated from the French by Clara Bell. With Preface by Edwin Bale, R.I. (Cassell.)—This treatise is mainly intended for the use of artists in black and white, and gives useful and helpful hints on the art of making and using sketches. The examples are well executed, and its references are mostly French, because the author is so; but this fact will make the little book none the less acceptable to English art-students.

Selections from the Spectator. With an Introduction and Notes. By K. Deighton. (Macmillan.)—We can speak with unqualified praise of Mr. Deighton's thirty-eight *Selections from the Spectator*. Characteristic

essays have been taken in hand, and the translation of each motto (taken from the collection at the end of Professor Morley's edition) has been appended. The notes are clear, and eminently suited to the use of the middle forms of schools; while the introduction, dealing with the life of Addison and the *Spectator* itself, is comprehensive, and gives the salient points of the writer's style.

From Abraham to David. By the Author of "The Bible and Modern Discoveries." (Percival & Co.)—A well-written book, dealing with the period specified in the title, in a manner reverent and yet graphic and interesting. The author has availed himself fully of the light which modern discoveries have thrown on the sacred narrative, without rendering his work wearisome by any obtrusive display of learning. Sunday-school teachers especially should welcome Mr. Harper's latest contribution to Biblical literature.

School Songs: Books I. to XII. (Novello, Ewer, & Co.)—This collection embraces music of the most varied character and of all degrees of difficulty, suitable for schools, both elementary and those of a higher grade. All are published with pianoforte accompaniment, which is, however, in most cases, dispensable. *The Kindergarten and Action Songs (Books XI. and XII.)* will be found interesting for young children.

School Music Review. Nos. 1 to 5. (Novello, Ewer, & Co.)—The music of this interesting publication is now obtainable apart from the journal. Each number contains several short pieces of music of graduated difficulty; and at the end of each is a useful page of exercises in time, rhythm, &c.

All the Year Round (Gustav Ernest), and King Neptune's Daughter (Ferris Tosser) (Novello, Ewer, & Co.), are two cantatas for girls' or boys' voices only. The former is of decidedly more than average merit, a most effective use being made of the increasingly popular device of accompanied recitation. The latter is pleasing and melodious, and, unless the amatory character of the libretto is considered a drawback, may be available for entertainments given by girls' schools of all grades. All these compositions are published both in the recognised and in the Tonic Sol-fa notations.

The Great Discourse of Jesus Christ, the Son of God. By a Layman. (Griffith, Farran, & Co.)—This book is didactic and devotional, rather than educational in its character, and is prefaced by a lengthy "Apologia," in which the author sets out his reasons for compiling and publishing it. Although it contains nothing striking or original, it might prove useful in the hands of a hard-pressed, but judicious, preacher or teacher, on account of its arrangement of topical passages.

The Cambridge Greek Testament for Schools and Colleges. The Second Epistle to the Corinthians. By the Rev. J. J. Lias. (Cambridge University Press.)—This is another contribution to the series of commentaries on the books of the New Testament prepared under the general editorship of the Bishop of Worcester. Its "text," like that of its predecessors, is based on the editions of Tischendorf and Tregelles, with occasional deviations after the texts of Stephens and Lachmann. Mr. Lias' treatment of his subject is admirable, and his notes are clear, full, and well-digested, and cannot fail to be useful to young students of this epistle.

First Principles of Scripture History. By T. S. Taylor, Author of "First Principles of Modern History," &c. (Relfe Brothers.)—A preliminary text-book for the use of children. The leading facts of Scripture history are brought together in a succinct form, and so arranged as to be easily acquired and assimilated. But there are some defects in the book which should be remedied. The maps are too crowded with names to be of much practical value; the plan of the Tabernacle is antiquated, and almost certainly incorrect; and in the table of the Herod family (p. 34), which purports to give the names of all its members who are mentioned in Scripture, the two Agrippas, Bernice, and Drusilla are omitted. Moreover, the table as it stands is misleading. Simplicity should not be secured at the expense of accuracy.

The Gospel according to St. Luke. By the Rev. George Hugh Jones. (Lang, Neil, & Co.)—A very full series of questions on the Gospel, supplemented by occasional notes and hints. The book, however, is intended to be used in connexion with Canon Farrar's commentary published in the Cambridge Series. Drawn up by a practical teacher, under careful supervision it should prove useful. An appendix enables the student to see at a glance the differences between the Authorized and Revised Versions.

Combined Standard Arithmetics for Course "S," No. I. (Standards I. and II.) (Blackie.)—This Arithmetic has been written to follow the syllabus of the scheme of the Department marked "S," which is intended for small schools, in which the average attendance of older scholars does not exceed sixty. The exercises are numerous and carefully compiled.

Pope's Iliad of Homer. With Introduction and Notes by H. L. Earl. Vol. III. (Percival.)—The third, and last, volume of this abridged edition of Pope's translation contains selections from Books XVIII.-XXIV. We have already expressed our opinion on the process of mutilation adopted in the series of English Classics for Schools, and need only say, in the present instance, that for the introduction we are referred to Vol. I., and that the notes leave no doubtful word unexplained.

Messrs. Moffatt & Paige have forwarded us a Combination Set Square and Rule, which is a real example of *multum in parvo*. On it are marked the divisions of the inch usually required in geometrical drawing, and a square inch. It may be used as a protractor, as well as a rule and set square.

Messrs. Blackie & Son have issued a series of *Little Tales for Little Folk*. All the tales are by W. L. Rooper, and are eminently suited to the tastes of the very young.

EDUCATIONAL NOTES AND SUMMARY.

MR. A. ACLAND explained to the members of the Royal Society on St. Andrew's Day the object of his future Bill, in a somewhat "unorganized and chaotic" speech, as follows:—"There are present here a large number of men who are interested in the work of education; and I think they will agree with me that we have one great task before us. Between the Universities and the University Colleges with which most of them are connected, and the great sphere of elementary education, there lies a large region, at present unorganized and chaotic, which we want to organize and bring into working order as soon as possible. There are many men of science in these colleges who often greatly regret to find willing lads, with the highest scientific capacity, brought under their notice and care, whose only lack is a lack of adequate educational preparation for their work. It is that which we want to remedy, and if I am enabled to take however humble a share in remedying it, I shall be proud of the task. We want to engage in the task of thereclamation of waste; and one of the most serious of all wastes is the waste of intellect. For those lads who go to our colleges in every part of Great Britain and Ireland we want to hold out one great possible goal—the blue ribbon of science—the title of Fellow of the Royal Society. You, at any rate, in your scientific honours, have no distinction of class, and, as your medallists to-day will testify, no distinction between one country and another.

PRINCESS LOUISE recently opened the fifth annual industrial exhibition of the Recreative Evening Schools Association at the Westminster Town Hall. The Association aims at making evening schools popular, and provides instruction, both recreative and technical. In all, some two hundred and thirty schools, girls' evening homes, and other kindred institutions, have been aided by the Association in London; and the estimated average attendance at these institutions is twelve thousand. The Association endeavours to encourage and attract those boys and girls who have left the public elementary day-schools, to continue their education at evening schools under Government inspection, and, with this object, supplies recreative and practical instruction, supplementary to the Code subjects.

As usual, says the *Oxford Magazine*, the University of Oxford is a good deal before the public in the newspapers and reviews. Mr. Joseph King says that we are not what we ought to be, and that if we do not mend our ways we are like to be swept away by the besom of a virtuous democracy; while a writer in the *Saturday Review*, appearing to speak the words of truth and soberness, is kind enough to remind this University, or rather the colleges, that, if they have not attained perfection, at least they are better than in the days of our forefathers. According to this writer, an Oxford college in the forties was an establishment compared to which the country of the Lotophagi was a great industrial centre. Lectures indeed were compulsory and frequent, so long as the student preserved his health unimpaired; but, as he might evade all his engagements by the simple process of putting on a daily *aeger*—not thereby incapacitating himself for the river or the cricket field—the burden of instruction was never too great to bear; and, since the aim of the lectures appears to have been rather to impart a liberal education than to prepare his audience for the Schools, it will be seen at once that the objects of a University were not being fulfilled, and that the undergraduate was perfectly justified in resorting to any subterfuge in order to escape from the burden of a futile and aimless cultivation. The evening was not consecrated to "the mysterious communing of wisdom with ignorance," but to the flowing bowl: three wines a night was the ordinary allowance of our rude forefathers; so that perhaps the morning *aeger* may have been only right and natural after all. Altogether the college described—from internal evidence it appears to have been situated immediately to the east of Christ Church—must have been the paradise of slackers; but perhaps it would be rash to draw conclusions as to the whole of the University. Where the total number of undergraduates does not exceed thirty, and that number includes gentlemen-commoners (on whose abolition we may sincerely congratulate ourselves), it is probable that a fast set would exercise an undue influence over the "tone": and we should like to know if the statement that the college in question obtained no First Class in the Schools during a period of ten years is really true. It looks like an exaggeration. However, there can be no doubt that the *aeger* system did exist according

to the description; and no doubt its disappearance, or at least modification, will be regretted by some.

At the annual meeting of the Manual Training Teachers' Association Mr. S. Barter occupied the chair, and the officers were re-elected. The report of the committee was presented by the Hon. Sec., and showed that the year had been a very busy one. All candidates for the London County Council, many Parliamentary candidates, as well as the members of both political parties who are interested in technical education, had been approached, and the results were very satisfactory. The Department had declared that where manual training was considered necessary, it should be provided by the local authority from the "beer and spirit surplus." Nearly every local authority had set apart some of that money for technical education. The London County Council had asked a gentleman well versed in the matter to report to them on the state of affairs in London, and his report is awaited with much interest. An alteration of rules was agreed to, by which all registered instructors under the City and Guilds of London Technical Institute, and other qualified manual training teachers, are eligible for membership, thus extending the sphere of usefulness of the Association. It was also reported that the Committee had decided that, if possible, a course of lectures on manual training would be arranged in the ensuing year. The Department's circular had been very carefully considered, and certain modifications suggested. The Institute had been approached about the "First" examination, and had promised to allow certain teachers to sit again this year for the "Final," without taking the first year's papers. The committee were instructed to press for permission for "Seconds" to have permission to try for "Firsts." The following members were elected on the committee for the ensuing year:—Messrs. Bentliff, E. J. Brown, Figg, Gandy, Newton, H. J. Wood, Laing, Whillier, Nunn, Ortnor, Mortimer, and Shrimpton. Messrs. Knightley and Crick were elected auditors.

THE Bishop of Peterborough spoke most feelingly, as indeed did all the speakers, at the annual meeting of the London Board Schools' Representative Managers, of the duty of managers to show genuine sympathy with teachers in their arduous work. He told a good story, by the way, of Matthew Arnold, who once told him that one of the proudest moments of his life was one day when he was walking in St. James's Park. As he sauntered along, there rushed up to him a ragged, dirty little child, dragging a still smaller brother by the arm. The child cried out: "Tommy, Tommy, here's the 'Spector! come and shake hands with him." Mr. Arnold was delighted that he had so impressed the mind of one child in a school which he had inspected that she thought it only natural to introduce her brother to him.

"THE Teachers' Retreat, one of the main features here," says a writer from Chautauqua, "has just closed a successful season, teachers from twenty-eight States, two Territories, and the Dominion of Canada, being present. Almost every station and grade in the profession, and almost every shade of religious belief and unbelief were represented. There is apparent in the teachers who attend the retreat an energy and a disposition for hard work which could hardly be expected of those who had just closed a long year of labour. But here they entered upon their duties at eight o'clock in the morning, and, with the exception of an intermission of an hour and a half at noon, work was continued until five in the evening. The forenoon session was taken up by lectures on psychology, pedagogics, history, geography, and number. In the afternoon, divided into three sections, work in chalk modelling, primary methods, and elementary science was taken up. The work in the latter subject was wholly practical laboratory work. The management appropriated a sufficient sum to equip quite fully a room which would accommodate from forty to fifty pupils. The actual observations of the teachers during the session were made the basis of the work done, in showing the order of development of the different subjects and their relation to each other. In the closing exercises of the retreat the majority of the teachers expressed themselves as being in favour of a six weeks' session instead of three weeks'. This would, indeed, more than double the efficiency of the work done, but there are those who would object to giving up almost the whole of their vacation to hard study."

MR. GOSCHEN, at a recent meeting of the Council of the London Society for the Extension of University Teaching, said: "My personal opinion is that the neglect of the study of history

in this country is almost a scandal, and that it is not to our credit as a nation that so large a proportion of the people should be as ignorant as I fear it is, with regard to our institutions and of all the foundations on which the nation rests. We wish to see lectures given—and they are given, and will be given—which will show the citizen how the State has arisen of which he is a citizen, what have been the causes that have contributed to its greatness, and what have been the causes that have hindered that greatness. I shall not enter upon the domain of politics, but a man, to whatever side in politics he belongs, will acknowledge that some information with regard to the past is almost indispensable to enable citizens at the present time to discharge their duties, those important duties which they are called upon to perform.”

MR. ACLAND presided at the annual meeting of the Chelsea Centre of the London University Extension Society. Referring to the London County Council grant of £30,000 for purposes of technical education, Mr. Acland said that that was a good beginning, but London had power to devote £160,000 a year to that purpose; and he ventured to express the hope that before long the London County Council would see its way to expend every penny of its £160,000 from the Local Taxation Fund, for the purposes of education. If the Council should offer £10,000 or £20,000 for the purpose of University teaching, it would, he thought, go hard with the Government if they did not meet it with a somewhat similar sum. In regard to what Mr. Goschen had recently said, he could only say that there was nothing the Department desired to encourage more than that pupil teachers, or those who were preparing in any form to improve themselves as teachers, should be brought in contact with University work. The great complaint which had been made against University Extension work was that it pretended to be so systematic and was so wanting in continuity; but that was a complaint that was made against all educational work. We were proceeding by degrees, and he ventured to think that it was only a question of time when all our desires would be met. His constant wish and desire was to receive all the suggestions and all the advice he could from competent authorities, in order to perfect our system of education. Those who visited him at Whitehall would not find him bound up in red tape, or shut up and totally inaccessible.

THE promised information as to the number and nature of the clerkships in the Home Civil Service offered for competition at the examination on January 3, 1893, has now been published by the Commissioners. The actual vacancies are six in number, viz., two clerkships at the War Office, one in the Local Government Board, one in the Correspondence Department of the Indian Office, one junior clerkship in the English Public Record Office, and one second-class clerkship at the Board of Trade. It is also expected that there will be another vacancy in the spring at the Public Record Office, the refusal of which will be offered to the successful candidates at this examination. With regard to salaries, a junior clerk at the Record Office receives £150 during his two years' probation; this salary afterwards rises £10 a year up to £300. The salaries of senior clerks rise from £315 to £500 a year, while the assistant record keepers receive annually from £520 to £700. At the Board of Trade the salary rises from £150 to £350. For details as to salaries in the Indian Office candidates are referred to the home accounts of the Government of India. The arrangements of the English Local Government Board and of the War Office are still under consideration. Candidates are, however, warned that these arrangements are “liable to modification in the future,” and that in the event of the reorganization of any Department, in the interests of the public service, and the consequent reduction of the number or alteration of the conditions of the superior appointments, no claim to compensation on behalf of a junior clerk can be admitted.

A VERY important question is agitating the minds of the friends of elementary education in Switzerland, says the *Schoolmaster*. The Constitution of 1874 made primary education free and compulsory in Switzerland. The law, however, was left to the cantons to carry out, the Constitution enjoining that the education given was to be “satisfactory,” without, however, defining what “satisfactory” meant. The result has been that there are very great diversities in the quality of the education given in different cantons. The cantons, too, have not been of

one mind with regard to the administration of the compulsory law. In the Valais, the percentage of attendance is 92·4 per cent., while in Neuchâtel 77·1 per cent. is reached, and in Vaud only 73·8. Still more striking differences with regard to the training of teachers in the different cantons present themselves. In some, the entrance examination is a farce, in others a stern reality. The length of the course varies from one to four years, while the variations in the amount of time given to the different subjects of study are equally startling, some institutions, for example, giving five times more time to pedagogics than other institutions think necessary. A teacher's certificate, consequently, has only a cantonal value, and may be worthless to him if he wishes to remove into another part of Switzerland. Some cantons appoint their teachers permanently; in others the teacher is only appointed for a short period, and has to run the risk of not being re-elected at the end of that period. In the payment of teachers the same diversities hold. In some cantons the average payment of a teacher is only £20 per annum. In consequence of the lack of resources, in many places a single teacher has under control more than a hundred children of different classes. Great diversities exist in the length of school-time in the different cantons. It extends from six years in some cantons to over eight in others. Again, in some cantons instruction is given for the whole day, in others for the half day only. The holidays vary from four weeks per annum in some cantons to twenty-seven weeks in others. But the greatest diversity of all exists in the amount of money spent per scholar on education in the different cantons, and the proportions in which this sum is contributed by the canton and the parish. The total expense per scholar per annum ranges from 13 francs in Valais to 117 francs in the town of Bâle. In Lucerne, the parishes pay about one-third as much again as the canton, while in Schwyz, out of a total of 139,067 francs, the canton contributes only 3,579 francs. Moreover, the parishes paying such a disproportionate amount of the total cost of education, are generally the poorest. We can hardly wonder at there being a general consensus of opinion that the state of elementary education is not satisfactory in Switzerland. The teachers have taken a step in the direction of improving the present state of things by presenting a memorial to the Bund, asking for a State subvention for elementary education. They ask that this State subvention shall be supplementary to, and shall not replace the local contributions, so that by means of it the Swiss primary schools may be improved. English educationists will heartily wish success to their petition.

MR. H. LLEWELYN SMITH, Secretary of the National Association for the Promotion of Technical and Secondary Education, when lecturing lately on the “Recent Progress of Technical and Commercial Education” before the London Chamber of Commerce, said that forty-two county councils had given their whole grant to technical education, and six were giving part of it; only the London County Council had not yet decided on the point. Of sixty county boroughs, fifty-five were giving the whole grant, and five part of it, to education. Out of 124 local authorities, 110 were now using the whole grant for educational purposes, and thirteen part of it, London being the only exception.

A NEW kind of writing for the blind, not distinguishable from that of the seeing, has been brought into operation by Fräulein Mulot, a teacher at Antwerp. The scholars write with a blunt pen, and the writing produced is perceptible both to the sight and to the feeling. It is *visible* because it becomes blue by means of a sheet of overlaid blue paper, on which the pupil writes; *tangible* because there is laid beneath the writing paper a leaf of blotting-paper, which causes the letters to sink in through the pressure of the pen. Fräulein Mulot has produced blind pupils able to execute this writing from dictation as quickly as seeing ones; her method of blind writing appears, therefore, likely to become an important feature in the education of the blind.

THE *Débats* states that M. Faillet, at a recent meeting of the Municipal Council, complained that Madame Sicard, head-mistress of the school of the Rue Sambre-et-Meuse, was disaffected to the Republic. Not only did he accuse this lady (who has been engaged in teaching thirty-six years) of various forms of mismanagement, but she is occasionally visited by clergymen at the school; she exercises “clerical pressure”; and on July 14

last, she hung linen to dry in her corridor, "no doubt to console herself for the white flag"; and she exercises hospitality towards "enemies of the Republic." It is true, added M. Faillet, that many teachers, male and female, are Clericals; but they conceal their principles through fear of public opinion, and anxiety for their salaries, but Madame Sicard makes a cynical display of hers. He concluded by demanding her dismissal. The Superintendent of Primary Instruction replied, and a heated discussion arose, which finally resulted in an official inquiry into the facts complained of being ordered, for which M. Faillet himself voted, much to the disgust of one of his supporters in the debate, who seems to have considered any form of trial unnecessary.

THE general meeting of the Association for the Improvement of Geometrical Teaching is to be held at University College, Gower Street, W.C., on Saturday, January 14th, 1893. At the morning sitting (11 a.m.), the report of the council will be read; the new officers will be elected, and the following will be proposed for election as members of the Association:—P. J. Heawood, M.A., Durlam; Prof. G. Loria, Genoa; W. H. Wagstaff, M.A., Birmingham. After the conclusion of the formal business, Mrs. Bryant, D.Sc., will give "A Model Lesson on Geometry, as a basis for discussion." After an adjournment for luncheon at 1 p.m., members will reassemble (2 p.m.) to hear papers by Mr. G. Heppel, M.A., "The Use of History in teaching Mathematics," and Mr. F. E. Marshall, M.A., "The Teaching of Elementary Arithmetic." All interested in the objects of the Association are invited to attend. Members who wish to have any special matter brought forward at the General Meeting, but who are unable to attend, are requested to communicate with one of the Honorary Secretaries. Members are requested to supply the secretaries with the name and address of any friends, especially of such as live in the neighbourhood of London, who would like to attend the General Meeting, in order that notices may be sent to them.

THE Local Examinations and Lectures Syndicate of Cambridge, in making arrangements for the next August meeting of University Extension students, are extending a special invitation to the teaching profession generally. For information apply to A. Berry, M.A., Syndicate Buildings, Cambridge.

A *Privat-Gymnasium* for girls will be opened next Easter at Weimar, with the object of preparing women for the Universities. A similar *Gymnasium* for girls was opened last October at Vienna.

In a paper recently read by Dr. Asher before the *Allgemeine Lehrerversammlung*, the distinguished oculist asserted that the causes of shortsightedness in Germany are not so much to be sought in the schoolroom as in the pupils' homes. Parents should see to it that their children do their home-work at a good light, that they keep their books at a proper distance from the eyes, and, above all, that they sit erect when writing.

UNIVERSITY INTELLIGENCE.

UNIVERSITY OF LONDON.

In continuation of our "Intelligence" of last month, we have to note the appearance of the Examiners' reports upon a large number of Honours and other examinations.

At the conjoint B.A. and B.Sc. Honours in Mental and Moral Science three candidates have got through, one in each class, but the scholarship is not awarded. Of the three, two are ladies; alone in the first class is Miss M. E. Pulling, of the Ladies' College, Cheltenham, and alone in the second class is Miss J. B. Partridge, of the University College, Aberystwith.

B.A. Honours only:—In Classics, seventeen candidates are successful, of whom six are ladies; the scholarship goes to Mr. Henry Symonds, of Wadham College, Oxford, who obtained the Exhibition in Latin at the Intermediate Examination of last year, and second to him stands Miss B. M. Heath, of Girton, who is marked worthy of the scholarship; there are two other candidates in the first class. In French, twenty are successful, ten being ladies, of whom one (Miss M. J. Siau, of the Royal Holloway College) is marked worthy of the prize, as is also the second in merit, viz., Mr. Robert Eastham, of St. Edward's College, Liverpool, but both are too old to receive it; one other candidate is in the first class. In German there are only six candidates through, of whom four are ladies; there is no first class. In English no less than thirty-seven candidates are successful, of whom sixteen are ladies; and five candidates are in the first class; at their head stands a lady, Miss J. B. Partridge (already mentioned), who is recommended for the prize, but is too old to receive it; the second candidate is also a lady, Miss B. C. Mulliner, a private

student; and so likewise is the fifth, Miss Alice Soole, of University College, London.

The two examinations in Scripture are considered a sort of appendage to the B.A. Examination; there has been one candidate for each, and both pass in the second class, so that neither gets a prize.

The D.Lit. Examination seems to be looking up: we understand that all the candidates (three) who presented themselves have passed—two in English, viz., Mr. J. W. Cunliffe, M.A., of Owens College, and Mr. John Lawrence, M.A., a private student, formerly also of Owens and previously of Flounder's College, and one in Mental and Moral Science, viz., Mr. F. S. Granger, M.A., of University College, Nottingham.

B.Sc. Honours only:—In Chemistry 12 candidates are through, but none are ladies; there is no first class. In Experimental Physics thirteen have passed, including two ladies; the first class contains four, all of whom are reported worthy of the scholarship; the first candidate, Mr. A. E. Briscoe, of the Royal College of Science, is too old to take it, and it passes to the second, Mr. Sidney Wood, of the same College; the other two, bracketed equal, are Mr. N. Eumorfopoulos, of University College, London, and Mr. E. T. Jones, of University College, Bangor. In Geology, &c., five candidates are successful, two being in the first class; the first of the two, Mr. C. A. White, of the Royal College of Science and Mason College, is marked for the scholarship, but is too old to receive it. In Zoology, four candidates are through, two being ladies; but there is no first class. In Botany, eight candidates are successful, four being ladies; one of these ladies, Miss J. M. Hayward, is first in the first class and recommended for the scholarship, but is disqualified by age from holding it. In Physiology, six candidates are through, two being ladies, who are both in the first class; here again Miss Hayward is at the top, and is marked worthy of the scholarship: we believe this is the first time in the history of the University that a lady has achieved the distinction of taking two places of scholarship rank; the other lady, Miss A. J. M. Elliot, of Newnham, stands third.

At the M.B. Honours twenty-seven candidates are successful in Medicine, including two ladies; the scholarship and first gold medal go to Mr. S. G. Toller, of St. Thomas's; the second medal goes to Mr. A. McDaldy, of Guy's; and Mr. H. A. Ballance, of University College, is marked worthy of a medal. In the fourth place is Miss L. B. Aldrich-Blake, of the London School of Medicine for Women; and, after five more names in the first class, we come, at the top of the second, to the name of Miss J. F. Hatch, from the same medical school. The list in Obstetric Medicine contains twenty names, including two of ladies; Mr. Toller again takes the scholarship and a medal; the second medal goes to Miss Hatch, just mentioned, and next to her stands Miss Aldrich-Blake; there are two more names in the first class. In the Forensic Medicine list there are only ten names, none of ladies; three are in the first class; the scholarship is not awarded, but the first candidate, Mr. C. E. Wheeler, of St. Bartholomew's, obtains a gold medal.

At the Bachelor of Surgery Pass Examination, thirty-three candidates are through.

At the Master in Surgery Examination four candidates are successful; one candidate, Mr. T. B. P. Davies, of Guy's, obtains the gold medal, and another, Mr. W. G. Rogers, also of Guy's, is marked worthy of the medal.

At the M.D. Examination, no less than sixty candidates have passed in Medicine, including three ladies; the great gold medal goes to Mr. Charles Coles, of St. Bartholomew's, and five other gentlemen are marked worthy of the medal, viz., Mr. H. A. Caley, of St. Mary's; Mr. A. E. Giles, of Owens; Mr. P. R. Dodwell, Mr. H. M. Richards, and Mr. W. M. Stevens, all of University College; the three ladies are Miss L. C. Bernard, Miss F. M. D. Berry, and Miss E. E. Wood, all from the London School of Medicine: up to this time Mrs. Scharlieb has been the only lady who could call herself "M.D. Lond." Besides the above, four candidates pass the M.D. Examination in State Medicine, two of whom had already taken the M.D. in Medicine.

Only one candidate has passed the B.Mus. Examination; we learn that seven presented themselves.

Lastly, at the "Examination in the Art, Theory, and History of Teaching," nine candidates, all ladies, and we believe all that presented themselves, have passed; one of these, Miss J. B. Reynolds, B.A., of the Cambridge Training College, has obtained the mark of "special distinction."

CAMBRIDGE.

The winners of the Carus Greek Testament Prizes are as follows:—of the prize for Bachelors, F. Robinson, Christ's; J. H. Srawley, Caius; of the prize for Undergraduates, A. H. McNeile, Pembroke.

The Cobden Prize has been won by Arthur Lyon Bowley, B.A., Scholar of Trinity.

The following have been elected to Honorary Fellowships at Gonville and Caius College:—Alexander Henry Green, M.A., F.R.S., formerly Fellow of the College, Professor of Geology in the University of Oxford; Arthur Ransome, M.A., M.D., F.R.S., Physician to the Manchester Hospital for Consumption and Diseases of the Throat; George John Romanes, M.A., F.R.S., late Fullerian Professor of Physiology in the Royal Institution of Great Britain.

Mr. W. Ridgeway, M.A., of Gonville and Caius College, has been elected to the Disney Professorship of Archaeology.

The Crosse Scholarship has been awarded to F. Robinson, B.A., of Christ's College, and H. Smith, B.A., of St. John's College.

The Member's Prize for the best Latin Essay has been won by A. B. Cook, B.A., Scholar of Trinity College.

The Jeremie Prizes for 1892 are adjudged as follows:—(1) A. N. Thomas, B.A., Pembroke College; (2) H. J. Edwards, B.A., Trinity College.

The question of July Triposes is to enter on its first practical stage to-day, when a Grace is to be submitted to the Senate for the formation of a Syndicate empowered to report on the subject. The names proposed for the Syndicate are those of Dr. Peile, Dr. Hill, Dr. Clark, Dr. Lea, Dr. Keynes, Prof. Liveing, and Messrs. E. S. Roberts, J. W. Cartmell, E. J. Gross, R. Appleton, C. E. Graut, J. T. Ward, W. L. Mollison, R. St. J. Parry, and the Hon. A. T. Lyttelton.

Dr. J. R. Lumby has been elected unopposed to the Lady Margaret Professorship of Divinity, rendered vacant by the death of Dr. Hort. Dr. Lumby, who was first-class classic in 1858, has been Norrisian Professor of Divinity since 1879. This chair is now rendered vacant.

The General Board of Studies has approved Mr. J. H. Middleton, Slade Professor of Fine Art and Director of the Fitzwilliam Museum, for the degree of Doctor in Letters.

The same Board has reported in favour of the appointment of a Demonstrator of Palæozoology, which subject has, as a matter of fact, been taught in the Woodwardian Museum since 1878.

A clock has been placed in the tower of Great St. Mary's, as a memorial of Dr. Luard, by his friends.

Mr. Francis Darwin, of Christ's, Reader in Botany, has been approved as Deputy for the Professor of Botany during the academical year.

A grant of £100 from the Werts Fund has been made to Mr. S. Schleelster, Reader in Talmudic, towards his expenses in visiting Italian libraries to examine Hebrew manuscripts.

OXFORD.

Hertford Scholarship, 1892.—The examiners have reported to the Vice-Chancellor the following award: Hertford Scholar—J. S. Phillimore, Scholar of Christ Church; *proxime accessit*, G. S. Robertson, Scholar of New College; honourably mentioned, C. Lubbock, Scholar of Trinity College, A. F. G. Moscardi, Scholar of Balliol College, and H. L. Drake, Scholar of St. John's College.

Taylorian Scholarship and Certificate Examination in French.—The Vice-Chancellor has received from the examiners the following award: Scholarship—W. W. Thomas, St. John's; *accesserunt*, T. A. V. Best, Magdalen, W. R. B. Gibson, Queen's; Certificate with distinction, W. G. E. Rees, Jesus; Certificates, C. W. Birch, Hertford, J. J. Cotton, Corpus; R. T. de M. Nixon, Wadham.

The Vice-Chancellor and Proctors have re-appointed the Provost of Oriel and Frederick York Powell, M.A., Student of Christ Church, to be Delegates of the University Press.

The annual report of the Keeper of the Ashmolean Museum records the bequest, by the late Mr. Greville Chester, of his collection of Egyptian and Oriental antiquities; the presentation, by Dr. Drury Fortnum, of Dr. Westwood's unique collection of fictile ivories; the purchase of the bilingual Hittite and cuneiform cylinder; and the acquisition of five Greek painted vases from the site of Gela, Sicily.

Mr. E. B. Elliott, of Queen's, has been elected to the Waynflete Chair of Pure Mathematics, which has been founded in connexion with Magdalen College.

Mr. J. F. Stenning, of Wadham, has been elected to a Senior Demyship at Magdalen, which has been founded as an endowment for original research. Mr. Stenning obtained a first-class in the School of Literæ Semitiæ, and also won many University Scholarships for Greek and Hebrew.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

The Marquis of Bute, Lord Rector in St. Andrews University, has appointed the Rev. Dr. Metcalfe, South Church, Paisley, as his assessor in the University Court. The Marquis consulted the Students' Representative Council with reference to the appointment.

Mr. W. M. Flinders Petrie has been appointed to the new Chair of Egyptology, at University College, London (the first of its kind in England), which was founded under the will of Miss Amelia B. Edwards.

Mr. Fred. Brown, Headmaster of the Westminster School of Art, has been appointed to the Slade Chair of Fine Art, at University College, London, vacant by the resignation of M. Legros.

At the opening of the new buildings of University College, Liverpool, Mr. James Bryce announced that the Queen had been pleased to bestow £4000 upon the two colleges of the Victoria University, to be applied in some permanent form, as might be agreed upon by the authorities.

A legal faculty has been inaugurated at this same college.

A new Grammar School has been opened at Quorn, near Loughborough, and Mr. E. W. Hensman, M.A. London, Sixth-form Master at Owen's School, Islington, has been elected Headmaster.

The Wardenship of St. Edward's School, Oxford, has been offered to and accepted by the Rev. T. W. Hobson, M.A., a master at Wellington College.

On a site adjoining the Guildhall School of Music, the foundation stone has been laid of the City of London School for Girls, for the erection of which the late Mr. W. Ward, of Brixton, bequeathed £20,000, subject to the condition that the Corporation should provide

a site. The Corporation has not only done this, but has also undertaken to maintain the School.

A Nautical College has been opened at Liverpool.

The Sainton-Dolby Prize at the Royal Academy of Music has been awarded to Miss Edith Hands.

The Rev. E. M. J. Adamson, M.A., Assistant-master at Surrey County School, has been elected Headmaster of the Sunderland High School.

Miss M. L. Johnson, B.A. London, Assistant-mistress at the Church of England High School in Eaton Square, has been elected Headmistress of the Great Yarmouth High School.

Miss M. Nall, late of Newnham College, Cambridge, and Assistant-mistress at the Church of England High School, Upper Baker Street, London, has been elected Headmistress of the Albany High School at Brighton.

GIFT BOOKS OF THE SEASON.

T. FISHER UNWIN.

More about Wild Nature. By Mrs. Brightwen.—In this book the author continues the pleasant and interesting sketches of the habits of her pets, to which she introduced us in her "Wild Nature Won by Kindness." For simplicity of expression and power of observation it will be difficult to find Mrs. Brightwen's equal, and so manifest are these characteristics in the present sketches, that we cannot hesitate to recommend the collection as a suitable gift book for a boy or girl, and more especially for one who, through ignorance, rather than deliberate intention, has shown that his or her instinct of humanity is more or less latent. Indoor pets are first dealt with, but among the "inmates of the grove" we read of the Highland kyloes, the young ass's colt, appropriately named "Shaggy Bray," foxes, squirrels, and hungry birds. Then comes the consideration of how to retain the pleasure of such intangible things as sunsets, views, odours of flowers, songs of birds, the music of water, and the beauty of distant mountains, or snow-clad peaks, and last of all, those actual treasures that may be brought home as the result of travel.

'93; or, *The Revolution amongst the Flowers.* By Florence Byng.—This is a pretty conception: Miriam is a little conservative, and she makes the flowers converse politics with her, and with one another. They teach her lessons. For instance, the yellow primrose becomes red, and leads her to say: "I shall beware in future of planting good Conservatives, like my primrose, too near red-hot Republicans, like that old creeper; I thought they could not be so easily contaminated." The conclusion of it all is that "the schoolmistress 'Order' will and must be obeyed. The human law, the schoolmistress we choose to govern us, is so very imperfect that it seems as if things would never get right; at any rate, we are obliged to put up with her till we can get a better guide." The seventeen illustrations are by Hilda Fairbairn.

ADAM & CHARLES BLACK.

Stories by Aescott R. Hope.—All these thirteen stories have appeared in print before, yet all are well worth republishing. They contain much quiet entertainment, raise no idle laughter, and enforce many useful lessons of life.

CASELL & Co.

A Bundle of Stories.—A well illustrated book in large type for very young readers.

Bashful Fifteen. By L. T. Meade. 3s. 6d.—Bridget O'Hara, the heroine, is a wild, affectionate Irish girl, with a head of luxuriant nut-brown curling hair, and two roguish dark-blue eyes. Part of the book is taken up with her short stay at an English school (where she finds that her knowledge of dogs, their different breeds, and their complaints, is hardly the kind of attainment favoured by her teachers), and part with the doings of her people at Castle Mahun. At school, through kind-heartedness, she gets into the power of a scheming schoolfellow, Janet May, whose deceitfulness is more than a match for the wild Irish girl, with her complete trust in every one. Janet May sponges on Bridget's aunt, and gets invited to Castle Mahun, but during her visit Biddy plainly sees the full extent of her deceit, and is more than relieved when Janet packs up and leaves the Castle mysteriously. The descriptions of Irish life in *Bashful Fifteen* are so charming and lifelike that we have no hesitation in stating that it is one of the most delightful books for girls of the year.

Yuletide: Cassell's Christmas Annual for 1892. 1s.—It may be that we are surfeited with Christmas literature at the present moment, but it appears to us that *Yuletide*, good as it undoubtedly is, hardly holds its position in comparison with several other improving annuals. "The New Babylon," illustrated by Harry Furniss, is a good story. It satirizes, good-humouredly, English customs and institutions, by comparing or contrasting them, on the grounds of humanity and economy, with Eastern customs. The large coloured plate is the "Rose, Shamrock, and Thistle," from the painting of Geo. W. Joy, and is one of the best of the season.

New Editions:—*On Board the "Esmeralda"; or, Martin Leigh's Log: A Sea Story.* By John C. Hutcheson. Seventh Thousand. *The Romance of Invention: Vignettes from the Annals of Industry and Science.* By James Burnley. Fifth Thousand.

The Christmas number of the *Queen* contains portraits of her Majesty's grandchildren. Among the contributors are the Duchess of Rutland,

Lady Dufferin, Lady Malmesbury, Miss Yonge, Mrs. Lynn Linton, Mme. Albani, Lady Butler, and others. The number has its usual variety of fashion plates, and is accompanied by some excellent pictures, "School Days," by Davidson Knowles, "The Squire's Daughter," by G. L. Seymour, and "What Shall I Say?" from a picture by C. Haighwood.

GRIFFITH, FARRAN, & Co.

True Stories from Roman History. Compiled by Alice Pollard. 2s. 6d.—A better introduction to the study of Roman history than a series of stories of the notable personages and memorable wars, told in a simple manner, and completely bared of the technicalities that are so likely to convey a wrong impression to the youthful reader, can scarcely be conceived. Such a book is Mrs. Pollard's *True Stories from Roman History*, which is a fit companion to her "True Stories from Greek History." The work extends from the early legends of the founding of Rome to the end of the Republic, and contains numerous illustrations.

New Edition:—*The Triumphs of Steam.* By Henry Frith.—This was originally published in 1858, but has been revised and partly re-written. Beginning at the remote age in which steam was a mere assistant in the hands of people ignorant of its nature and powers, the author shows the gradual development of the great prime mover, from the æolipile of the time of Hero to the compound and quadruple expansion engines of the present century.

Short Stories about Animals. By Gertrude Sellar.—The figures of animals, and other pictures in colours by Mrs. Weekes, are in good style, and really illustrate the text.

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending December 31st, 1892.

- Allfree (G. F.) and Scudamore's (T. F. J.) Companion to Helps to Higher Arithmetic. cr. 8vo, 2s. 6d. swd.
- Aristotle's Nicomachean Ethics, translated, with an Analysis and Critical Notes, by J. E. C. Welldon. cr. 8vo, 7s. 6d. cl.
- Ball's (Sir R. S.) Atlas of Astronomy, imp. 16mo, 15s. cl.
- Brett's (R. B.) Footprints of Statesmen during the Eighteenth Century in England, cr. 8vo, 6s. cl.
- Burnett's (R.) Supplementary Higher Arithmetic, Part 1, cr. 8vo, 2s. bds.
- Caddy's (W. H.) Twenty-six Full-size Working Drawings for Wood-carving, obl. roy. 8vo, 3s. 6d. swd.
- Cassell's New Biographical Dictionary, demy 8vo, 7s. 6d. cl.
- Cayley's (A.) Collected Mathematical Papers, Vol. 5, 25s.
- Church's (R. W.) Cathedral and University Sermons, 6s. cl.
- Collings's (L. B. M.) A Rhyming Record of English History, and other Poems, cr. 8vo, 3s. 6d. cl.
- Daudet's (A.) Contes militaires, edited by T. W. Perowne, 2s. 6d.
- Endlich's (F. M.) Manual of Qualitative Blowpipe Analysis and Determinative Mineralogy, 8vo, 21s. cl.
- Flach (J.) : Les Origines de l'ancienne France, Vol. 2, 10fr.
- Ferguson's (G.) Our Earth, Night to Twilight, Vol. 2, 3s. cl.
- Ford's (R.) Popular Readings in Prose and Verse, cr. 8vo, 4s.
- Giesswein (A.) : Die Hauptprobleme der Sprachwissenschaft, 5m.
- Gore's (J. E.) The Visible Universe, Chapters on the Origin and Construction of the Heavens, illustrated, 16s. cl.
- Goumy (E.) : Les Latins, 3fr. 50.
- Gow's (J.) Method of English for Secondary Schools, 2s. cl.
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MATHEMATICS.

11740. (J. W. RUSSELL, M.A.)—The opposite vertices AA' , BB' , CC' of a quadrilateral circumscribing a conic are joined to a given point O ; OA cuts the polar of A in a , OB cuts the polar of B in b , and so on; show that a conic can be drawn through the seven points O , a , a' , b , b' , c , c' .

Solution by J. C. ST. CLAIR; M. BRIERLEY; and others.

Let e , f , g be the diagonal points of the quadrangle whose sides are the polars of A , B , C , &c.

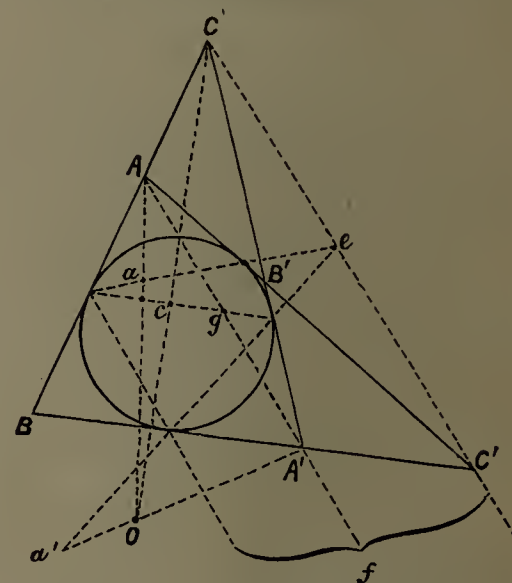
The harmonic pencil (e , aga') is the polar range ($AfA'g$); therefore

$$(e, aga') = (O, AgA'f) \\ = (O, aga'f).$$

Hence the six points $Oefga'a'$ lie on the same conic (1).

Similarly, $Oefgb'b'$ lie on a conic (2); and $Oefgc'c'$ lie on a conic (3).

Again, since the pairs Oa , fg ; Oe , ef ; ae , cg meet in the three collinear points A , C , and the point of contact of AC , $Oacfgc$ is a Pascal hexagon; and therefore the conic (1) is identical with (3).



[The rest in Volume.]

7373. (D. EDWARDS.)—ABCD is a square inscribed in a circle, and P a point on the circumference of the circle. The pedal lines with respect to P are drawn of the triangles formed by the sides and diagonals of ABCD. Prove (1) that the area of the quadrilateral formed by these pedal lines is $\frac{1}{4}(PA \cdot PC + PB \cdot PD)$; (2) its maximum area $\frac{1}{4}AB^2\sqrt{2}$; and (3) the angle between its diagonals is $\sin^{-1} \frac{PL + PM}{AB}$, PL , PM being the perpendiculars from P on the diagonals of the square.

Solution by Professor SCHOUTE.

1. The three points S , Q , L lie on the circle of which AP is a diameter (for the angles ASP , AQP , ALP are right ones). This gives

$$\angle QSL = \angle QAL = 45^\circ,$$

$$\angle QLS = \angle QAS = 90^\circ,$$

$$\therefore QL = \frac{1}{2}QS\sqrt{2} = \frac{1}{2}AP\sqrt{2}.$$

$$\text{Also, } QM = \frac{1}{2}BP\sqrt{2},$$

$$LR = \frac{1}{2}CP\sqrt{2},$$

$$MR = \frac{1}{2}DP\sqrt{2},$$

$$\angle LRM = 45^\circ,$$

$$\angle MQL = 135^\circ.$$

$$\therefore \triangle QLR \sim \triangle APC,$$

$$\text{and area } QLR = \frac{1}{2}\triangle APC,$$

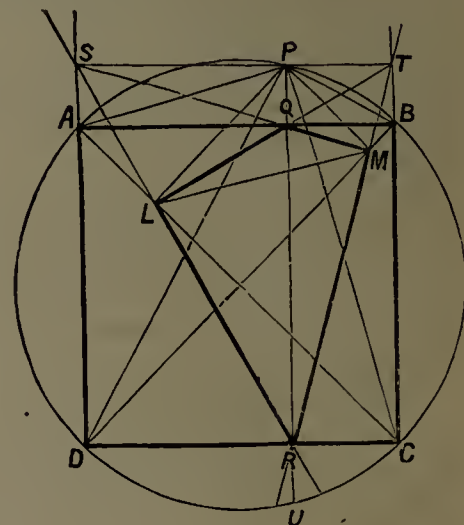
$$\triangle QMR \sim \triangle BPD,$$

$$\text{and area } QMR = \frac{1}{2}\triangle BPD,$$

$$\text{area } QLRM = \frac{1}{2}\triangle APC + \frac{1}{2}\triangle BPD = \frac{1}{4}(PA \cdot PC + PB \cdot PD).$$

[The rest in Volume.]

11729. (Professor ORCHARD, M.A., B.Sc.)—Show how to deduce the



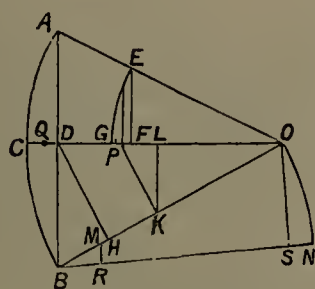
position of the centre of gravity of a segment of a circle from that of a sector, and *vice versa*.

Solution by D. BIDDLE; Professor ZERR; and others.

Let OAB be the sector, OA = 1, $\angle AOB = 2\alpha$. Bisect AB in D, and draw OC through D. Then $\angle AOC = \alpha$. Make OE = $\frac{2}{3}$ OA, and draw EF perpendicular to OC. Then F is the centre of gravity of the triangle ABO. Also describe the arc EGE' between OA and OB from centre O. Then the centre of gravity of that arc ($\equiv P$) is also the centre of gravity of the sector. Moreover, the area of the triangle

$$ABO = \sin \alpha \cdot \cos \alpha,$$

and the area of the sector = α . Also OF = $\frac{2}{3} \cos \alpha$, and OP = $\frac{2}{3} \sin \alpha / \alpha$. Let Q be the centre of gravity of the segment ACB.



[The rest in Volume.]

11706. (R. TUCKER, M.A.)—DEF, D'E'F' are in-triangles of ABC (D, D' on BC; E, E' on CA; F, F' on AB), which have their sides parallel to the bisectors of the angles of ABC. Find the areas of the triangles and the equations to their circumcircles, and show that DD'EE'FF' is an equilateral hexagon having each side equal $abc/\Sigma(ab)$.

Solution by H. W. CURJEL, B.A.

Let the bisectors of the angles A, B, C meet the opposite sides in P, Q, R: then

$$CQ : QE = CB : BD,$$

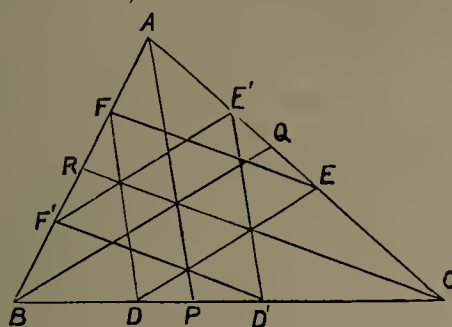
$$BP : PD = BA : AF,$$

$$AR : RF = AC : CE;$$

$$\text{i.e., } ba/(a+c) : ba/(a+c) - CE = a : BD,$$

$$ca/(b+c) : ca/(b+c) - BD = c : AF,$$

$$cb/(b+a) : cb/(b+a) - AF = b : CE.$$

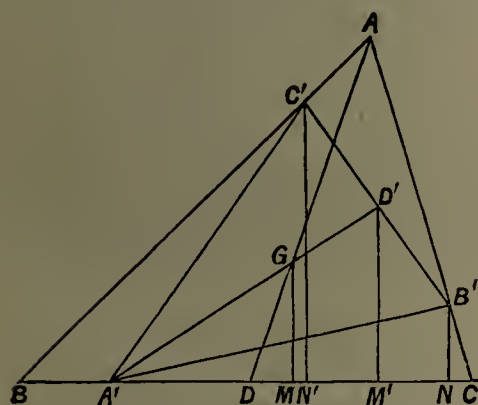


[The rest in Volume.]

11656. (Professor DESPREZ.)—On inscrit à un triangle fixe ABC tous les triangles A'B'C' ayant même centre de gravité G. Démontrer que les côtés B'C', C'A', A'B' enveloppent trois paraboles.

Solution by R. F. DAVIS; J. DALE, M.A.; and others.

Take any point a on AB; join aG and produce it to d , so that $Gd = \frac{1}{2}aG$. Produce Cd to P so that $Cd = dP$, and draw Pb , Pc parallel to CA, CB meeting CB, CA in b , c respectively. Then the diagonals bc ,



CP of the parallelogram $PbCc$ bisect each other in d .

[The rest in Volume.]

11422. (D. BIDDLE.)—Of $2n$ trees, planted in a row, alternate ones are cut down; and the process is annually repeated with those remaining, until only one is left, odds and evens being cut down by turns in the successive sets, counted from the same end. Find, in terms of n , the position (in the original belt) of the last tree left, (1) when odds begin, (2) when evens begin.

Solution by H. J. WOODALL, A.R.C.S.

(1) It can be easily seen that the series giving the first to be cut down at the successive operations is 1, 4, 2, 14, 6, 54, $22 = u_1, u_2$, &c., the first left being 1, 2, 2, 6, 6, &c. = v_1, v_2, v_3 , &c.; $u_1 = 1, u_2 = 4, u_3 = 2$, &c.; therefore $u_2 - u_1 = 3$ and $v_2 = v_3 = u_3$; $u_2 - u_3 = 2$;

$$u_4 - u_3 = 12 = 4 \times 3 = 3 \times 2^2; \therefore u_{2m} - u_{2m-1} = 3 \times 2^{2m-2};$$

$$u_4 - u_5 = 8 = 4 \times 2 = 2^3, \quad u_{2m} - u_{2m+1} = 2^{2m-1},$$

$$\text{Thus } u_{2m} = u_{2m+1} + 2^{2m-1}, \quad u_{2m} = u_{2m-1} + 3 \times 2^{2m-2};$$

$$\text{therefore } u_{2m+1} - u_{2m-1} = 3 \times 2^{2m-2} - 2^{2m-1} = 2^{2m-2}.$$

[The rest in Volume.]

11683. (Rev. ROB. BRUCE, D.D.)—Show (1) how to place eight men on a draught-board so that no two of them shall be in line with another,

horizontally, perpendicularly, or diagonally; and find (2) in how many ways this can be done.

Solution by the PROPOSER.

The question arose while I was staying at Windermere. Dr. PARKER, who was there, had "a puzzle" which he set every new arrival to solve; it was the one in the question. Not much difficulty was found in placing seven; but the eighth was the crux. Dr. PARKER then showed us the thing done. I asked if that was the only position. He replied that he thought it could be done two ways. I began studying and experimenting, and found at least forty ways, or forty positions in which the conditions are fulfilled. By observing a certain sequence of the numbers of the places in which the men stood, I saw at once that one position virtually involves four by simply turning round the board. Taking the rows in order from the bottom to the top, I found these (*inter alia*):—

[The rest in Volume.]

11719. (Professor MORLEY.)—Given a homogeneous line equation of a curve, $f(p_1, p_2, \dots p_n) = 0$, where p_n is the distance from a fixed point a_n to a line, prove that the foci are given by $f(z - a_1, z - a_2, \dots z - a_n) = 0$.

Solution by Prof. GENESE, M.A.; Prof. ZERR, M.A.; and others.

Let a focus be taken as origin O, then the isotropic line $x + y(-1)^{\frac{1}{2}} = 0$ is a tangent (t). Let x_n, y_n be the coordinates of a_n . The perpendiculars from $a_1, a_2 \dots a_n$ on t are all infinite, but are proportional to

$$x_1 + y_1(-1)^{\frac{1}{2}}, \quad x_2 + y_2(-1)^{\frac{1}{2}}, \quad \&c.;$$

$$\text{therefore } f[x_1 + y_1(-1)^{\frac{1}{2}}, x_2 + y_2(-1)^{\frac{1}{2}}, \dots x_n + y_n(-1)^{\frac{1}{2}}] = 0;$$

$$\text{therefore, in equipollences, } f(0a_1, 0a_2 \dots 0a_n) = 0;$$

$$\text{or, changing origin, } f[z - a_1, z - a_2 \dots (z - a_n)] = 0,$$

where z is the vector of any focus, which is Professor MORLEY's beautiful theorem. Particular cases will be found most interesting.

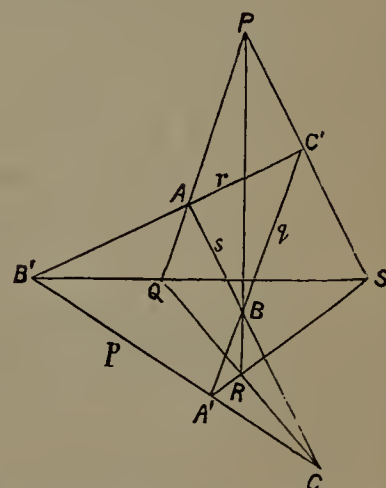
6521. (The late T. COTTERILL, M.A.)—Conicoids circumscribing a quartic curve in space have a common self-conjugate tetrahedron. Show that a plane cuts the quartic in four points, and the tetrahedron in four lines, such that triangles can be found circumscribing any conic inscribed in the four lines conjugate to any conic through the four points.

Solution by Professor SCHOUTE.

A plane Σ cuts the opposite edges of a tetrahedron PQRS in three couples of points (AA'), (BB'), (CC'). The points of each couple are conjugate with reference to the section S^2 of Σ and any quadric for which the tetrahedron is autopolar.

Now the couples (AA'), (BB'), (CC') represent the degenerated individuals of the tangential pencil of curves of the second class touching the four lines of intersection p, q, r, s of Σ and the faces of PQRS. And the indicated relation between S^2 and each of the three couples represents the special case of the relation mentioned in the problem corresponding to the case of a curve of the second class degenerated into two points.

Moreover the relation in question exists between S^2 and any conic T^2 of a tangential pencil, if it exists between S^2 and two individuals of the pencil. Therefore, &c.



11699. (Professor MOREL.)—Par les sommets A, B, C d'un triangle acutangle on mène les droites AA', BB', CC' respectivement perpendiculaires aux côtés AB, BC, CA, et limitées aux côtés opposés aux sommets A, B, C. Démontrer que le triangle est équilatéral, si l'on a

$$\frac{AB}{AA'} + \frac{BC}{BB'} + \frac{CA}{CC'} = \sqrt{3}.$$

Solution by Professor DROZ FARNY; Rev. D. THOMAS, M.A.; and others.

$$\frac{AB}{AA'} = \cot B, \quad \frac{BC}{BB'} = \cot C, \quad \frac{CA}{CC'} = \cot A.$$

Il s'agit donc de démontrer que le triangle est équilatéral si

$$\cot A + \cot B + \cot C = \cot \omega = \sqrt{3};$$

$$\text{or } \Sigma (\cot A - \cot B)^2$$

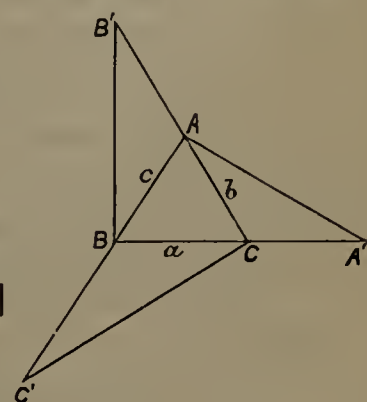
$$= 2 \Sigma \cot^2 A - 2 \Sigma \cot A \cot B$$

$$= 2 [(\cot A + \cot B + \cot C)^2$$

$$- 3(\cot A \cot B + \cot A \cot C + \cot B \cot C)]$$

$$= 2 [\cot^2 \omega - 3];$$

$\cot \omega$ ne peut donc atteindre sa valeur minimale $\sqrt{3}$ que si $\cot A = \cot B = \cot C$ dans le théorème énoncé.



[The rest in Volume.]

11694. (Professor VUITTENEZ.)—On considère un quadrilatère inscriptible ABCD dans lequel les diagonales se coupent au point O. Si S_1, S_2, S_3, S_4 désignent respectivement les surfaces des triangles OAB, OBC, OCD, ODA, démontrer que

$$AC : BD = \{(S_1 S_4)^{\frac{1}{2}} + (S_2 S_3)^{\frac{1}{2}}\} : \{(S_1 S_2)^{\frac{1}{2}} + (S_3 S_4)^{\frac{1}{2}}\}.$$

Solution by R. F. DAVIS, M.A.; H. W. CURJEL, B.A.; and others.

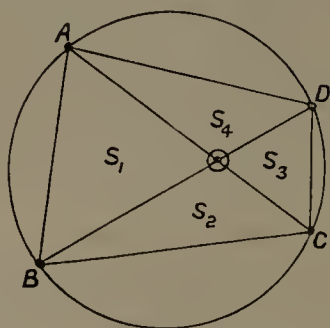
Since the angles at O are equal or supplementary, S_1, S_2, S_3, S_4 are proportional respectively to the rectangles under the containing sides; hence

dexter ratio of the question

$$= (OA \cdot K + OC \cdot K) : (OB \cdot K + OD \cdot K)$$

$$= AC : BD,$$

where $K^2 = OA \cdot OC$
 $= OB \cdot OD.$

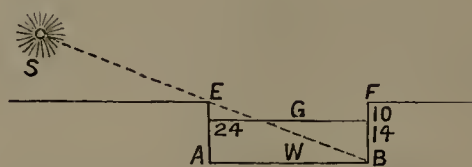


11092. (Professor SHIELDS, M.A.)—The water in a canal C is 10 feet below the top edges EE of the canal, and 14 feet deep. At a certain time of the day the sun's rays, or shadow S over the edge E of the canal, strikes the water W, 24 feet from the side wall A, in such a manner as to be in line of collimation, or strike the opposite lower edge B of the canal. Find the width of the canal.

Solution by Professor ZERR; Professor AIYAR; and others.

A cross section of the canal being a rectangle, we have two similar right-triangles, with 10 and 24 for perpendiculars, and for bases 24 and x (= width of canal); hence $10 : 24 = 24 : x$,

or $x = 57.6 \text{ feet} = \text{width}.$



QUESTIONS FOR SOLUTION.

11783. (Professor SYLVESTER.)—When a surface of the order j , if drawn through all but ρ of the ghi intersections of surfaces of the orders g, h, i , must pass through the remaining ρ intersections, and ρ is the highest number of which this can be predicated, then I call ρ the residual to the system $g, h, i : j$, and denote it by $[g, h, i : j]$, where j is always supposed to be not less than any of its antecedents. Prove that $[g, h, j : j]$ is the same for all values of j not less than $g + h - 3$. Thus, *ex. gr.*,

$$[2, 2, j : j] = 1, \quad [3, 3, j : j] = 10,$$

$$\text{whereas } [4, 4, j : j] = 33 \text{ when } j > 4, \text{ but } = 32 \text{ when } j = 4.$$

$$\left\{ \frac{1}{6}(5i^3 - 6i^2 - 11i + 12) \text{ being the initial and } (2i - 3)^2 + (i - 2)^3 \right. \\ \left. \text{the ultimate value of } [i, i, j : j] \right\}.$$

Prove also that, extending the above definition and notation to all loci represented by single quantities, $[i_1, i_2, \dots, i_n, j : j]$ will be the same for all values of j not less than $\sum i - n - 1$. Thus, *ex. gr.*, $[2, 2, 2, j : j]$ is always 5, but $[2, 2, 2, 2, j : j]$ is 16 or 17, according as j is equal to or greater than 2.

11784. (Professor MALET, F.R.S.)—Using LEGENDRE's notation for elliptic integrals, given the relations

$$F(c, \theta) + F(c, \phi) + F(c, \psi) - F(c, \alpha) - F(c, \beta) = 0,$$

$$\Pi(n, c, \theta) + \Pi(n, c, \phi) + \Pi(n, c, \psi) - \Pi(n, c, \alpha) - \Pi(n, c, \beta) = 0,$$

$$\text{prove that } E(c, \theta) + E(c, \phi) + E(c, \psi) - E(c, \alpha) - E(c, \beta) \\ = -nc^2 \sin \theta \sin \phi \sin \psi \sin \alpha \sin \beta.$$

11785. (Professor ZERR.)—A bucket and a counterpoise connected by a string passing over a pulley just balance one another; the bucket is at a distance h from the ground, and an elastic ball is dropped into the centre of the bucket from a distance h above it: find (1) the elasticity of the ball so that the bucket may reach the ground just as the ball ceases to rebound; and (2) the time it takes, the masses of ball and bucket being equal.

11786. (Professor SIRCOM.)—Prove that

$$p(p+n)^{n-1} + nrp(p+n-1)^{n-2} + n^{\frac{1}{2}}(n-1)rp(p+n-2)^{n-3}(r+2) + \dots \\ + n^{\frac{1}{2}}(n-1) \dots (n-s+1)/s \cdot rp(p+n-s)^{n-s-1}(r+s)^{s-1} + \dots \\ \dots + nrp(r+n-1)^{n-2} + r(r+n)^{n-1} = (p+r)(p+r+n)^{n-1};$$

where n is a positive integer.

11787. (Professor ORCHARD, M.A., B.Sc.)—In any plane triangle ABC prove that

$$\operatorname{cosec} B \operatorname{cosec} C \sin(B-C) \sin 3A + \operatorname{cosec} A \cot C \sin(C-A) \sin 3B \\ + \operatorname{cosec} A \cot B \sin(A-B) \sin 3C + \operatorname{cosec} A \cot B \sin(C-A) \sin 3B \\ + \operatorname{cosec} A \cot C \sin(A-B) \sin 3C \equiv 0.$$

11788. (Professor NEUBERG.)—Trouver

$$\int \frac{dx}{\sin(x+a) \sin(x+b) \sin(x+c)}.$$

11789. (Professor BASCHWITZ.)—On a , identiquement,

$$\frac{1+x}{1-x}x + \frac{1+x^2}{1-x^2}x^4 + \dots + \frac{1+x^n}{1-x^n}x^{n^2} \\ = \frac{x}{1-x}(1+x^n) + \frac{x^2}{1-x^2}(1+x^{2n}) + \dots + \frac{x^n}{1-x^n}(1+x^{n^2}).$$

Si l'on suppose x compris entre 0 et +1, et que l'on fasse croître n indéfiniment, cette identité devient celle de CLAUSEN.

11790. (Professor NASH.)—Prove that every prime number of the form $6n+1$ can be expressed in the form x^2+3y^2 , and that no prime of the form $6n-1$ can be so expressed. [This can be proved without using any of the q -series of elliptic functions.]

11791. (Professor CATALAN.)—Quelle que soit la base de numération, aucun des nombres représentés par 10101, 101010101, 1010101010101, ... n'est premier.

11792. (The late Professor WOLSTENHOLME, Sc.D.)—If $ay = az$, prove that

$$\int_0^\infty \frac{\cos^n y}{\lambda^2 + y^2} e^{a \cos z} [\lambda \cos(ny + a \sin z) - y \sin(ny + a \sin z)] dy = \frac{1}{2^{n-1}} \cdot \frac{\pi}{\lambda}.$$

11793. (Professor RAMASWAMI AIYAR.)—Let ABCD be a tetrahedron, X its circumscribing sphere. Let planes parallel to the tangent planes at A, B, C, D to X cut the solid angles A, B, C, D in the triangular sections $\alpha, \beta, \gamma, \delta$ respectively. Such sections may be called antiparallel sections. Prove that (1) the four antiparallel sections $\alpha, \beta, \gamma, \delta$ are similar; (2) if a, b, c, d be corresponding points of $\alpha, \beta, \gamma, \delta$, the lines Aa, Bb, Cc, Dd , are generators, of one system, of a hyperboloid; (3) if a', b', c', d' be the isogonal conjugates of a, b, c, d in the triangles $\alpha, \beta, \gamma, \delta$, the lines Aa', Bb', Cc', Dd' are generators of the opposite system of the same hyperboloid; (4) if a, b, c, d be the in-centres of the sections $\alpha, \beta, \gamma, \delta$, the lines Aa, Bb, Cc, Dd meet in a point L_0 ; and similarly, if a, b, c, d be corresponding ex-centres of the sections $\alpha, \beta, \gamma, \delta$, the lines Aa, Bb, Cc, Dd meet in a point. Let the points thus obtained in the cases of the three ex-centres of any section be L_1, L_2, L_3 . [These points L_0, L_1, L_2, L_3 may be called four of the Lemoine-points of the tetrahedron. Some of their remarkable properties, as well as the general theory of a class of polyhedra, which admit of a Lemoine-point, will be given in some future questions.]

11794. (Professor SHIELDS.)—A queen with four children, A, B, C, and D., owned a round island of land with two cross streets, each 4 rods wide, running north and south, and east and west, dividing the island into four equal quadrants. She gave A. a round tract of land in the S.W. quadrant, tangent to both streets, and enclosing 2 acres of land in the corner between the circumference of the land and junction of the two streets; and gave B. a similar round tract of land in the N.E. quadrant, tangent to the two streets, thus enclosing 3 acres of land in the corner outside of and between the round tract and two streets. She then gave C. a round tract of land in the S.E. quadrant, tangent to one street and circumference of the island, in which was the largest square field possible, enclosing 2 acres of land in each of the four segments outside of the square field; and she gave D. a similar round tract in the N.W. quadrant, tangent to one street and circumference of the island, in which was the largest square field possible, enclosing 3 acres of land in each of the four segments outside of the square field. The centres of opposite round tracts are connected by two diagonal lines, AB and CD. And, knowing that the sum of the circumferences of the four round tracts is equal to the circumference of the island, find (1) the area of the island, (2) the number of acres each child received, and (3) the difference in the lengths of the two diagonals AB and CD.

11795. (Professor MACFARLANE.)—Prove that

$$\cos nA \cos nB = (\cos A \cos B)^n \\ + \frac{n(n-1)}{1 \cdot 2} (\cos A \cos B)^{n-2} (1 - \cos^2 A - \cos^2 B + 3 \cos^2 A \cos^2 B) \\ + \frac{n(n-1)(n-2)(n-3)}{1 \cdot 2 \cdot 3 \cdot 4} (\cos A \cos B)^{n-4} (1 - \cos^2 A - \cos^2 B + 3 \cos^2 A \cos^2 B)^2 \\ + \&c.$$

11796. (Professor PELLET.)—Appelons calotte la surface obtenue en coupant une surface convexe en un point M par un plan parallèle et suffisamment rapproché du plan tangent en M. La différence entre l'aire de la calotte et l'aire de sa base est du second ordre par rapport à l'une ou l'autre de ces aires. Mais il y a un point C sur la normale à la surface au point M tel que, en le prenant pour centre de perspective, l'aire de la projection conique de la calotte sur le plan tangent en M ne diffère de la calotte que d'un infiniment petit du troisième ordre. Le conjugué harmonique de M par rapport aux centres de courbure principaux se trouve au quart de la droite qui joint le point M au centre de perspective C.

11797. (Professor TISSOT.)—Si l'on projette un foyer d'une conique sur la tangente et sur la normale en un point de la courbe, et ce dernier point sur l'axe focal, démontrer que (1) les deux premières projections seront en ligne droite avec le centre; (2) de la troisième, leur distance sera vue sous un angle droit; (3) dans l'angle formé avec l'axe par la droite qu'elles déterminent, la normale et la droite joignant la deuxième projection à la troisième seront anti-parallèles; (4) les distances du centre à ces deux dernières projections seront entre elles dans un rapport égal à l'excentricité, d'où résulte, sans calcul, le rapport connu de la différence

ou de la somme des rayons vecteurs d'un point d'une conique avec la distance de ce point au second axe.

11798. (Capt. DE ROCQUIGNY.)—Aucun nombre triangulaire ne peut être une puissance exacte de 2.

11799. (Professor GENESE.)—The following are exercises in equipollences: 1° a transversal through a fixed point S meets two fixed straight lines in M, M', if SP be constructed = SM.SM', the locus of P is, in general, a conic with focus at S; 2° if α be a central radius of a conic, α^2 is a focal radius of another; 3° if α be a central radius of an equilateral hyperbola, α^4 is a focal radius of a parabola; 4° if α be a vector to the perpendicular to the unit vector at its extremity, $\frac{1}{2}\alpha^2$ is a focal radius of a parabola having the perpendicular as directrix.

11800. (EDITOR.)—Solve the equations

$$x^{-1} + (y-z)^{-1} = (b+c)^{-1}, \quad y^{-1} + (z-x)^{-1} = b^{-1}, \quad z^{-1} + (x-y)^{-1} = c^{-1}.$$

11801. (D. BIDDLE.)—On a smooth horizontal plane stands a sphere A, of given radius (r) and weight (w). On its apex is placed an equal sphere B, which proceeds to descend upon its surface. Find the velocity with which the two separate on the plane.

11802. (R. TUCKER, M.A.)—DEF is an in-triangle of ABC. In (1) DF is a positive isoscelian and DE a negative isoscelian; in (2) DF is a negative "I," and DE a positive "I"; in both cases EF is parallel to BC. In (1) the circle DEF is the "N.P." circle; in (2) its equation is

$$a \cos^2(B-C) \sin \alpha \beta \gamma$$

$$= R \sum (a \alpha) \{ \sin A \cos A \alpha + 2 \cos B \cos C [\beta \sin(2C-B) + \gamma \sin(2B-C)] \}.$$

In (1) and (2) BE, CF intersect on the median through A, and in (2) AD passes through the circum-centre of circle ABC.

11803. (E. A. WHITE, B.A.)—Solve the system of equations

$$\frac{dy_1}{dx} = y_2 - y_1^2, \quad \frac{dy_2}{dx} = y_3 - y_1 y_2, \quad \dots \quad \frac{dy_{n-1}}{dx} = y_n - y_1 y_{n-1}, \quad \frac{dy_n}{dx} = 1 - y_1 y_n,$$

and show that in the case when $n = 2$ a particular solution is

$$y_1 = t(x), \quad y_2 = T(x),$$

where the functions satisfy the relations

$$t(u+v) = \frac{t(u) + t(v) + T(u) \cdot T(v)}{1 + t(u) \cdot T(v) + T(u) \cdot t(v)},$$

and a similar one got by interchanging t and T .

11804. (R. KNOWLES, B.A.)—In Quest. 11727, if the circle FMN, of centre O, meet the axis again in K, prove that (1) OK bisects MN, (2) the locus of O is a semi-cubical parabola.

11805. (W. J. GREENSTREET, M.A.)—Prove that the axis, general term $m^n n^b$, is convergent if a and b are each > 1 .

11806. (MORGAN BRIERLEY.)—Show how the greatest possible ellipse may be inscribed in a given segment of a circle.

11807. (J. C. ST. CLAIR.)—Given two unequal homographic pencils with different centres, show that (1) if one pencil rotate round its centre, the conics generated in the successive positions by the intersections of corresponding rays have two imaginary points in common; and (2) if both pencils rotate in such a manner as to generate straight lines, these lines envelope a conic.

11808. (I. ARNOLD.)—The point P and a straight line AB being given in position, find the locus of a point Q, so that the rectangle under QC (perpendicular on AB) and a given straight line m , shall be equal to the square on PQ.

11809. (J. MACLEOD.)—Three circles whose centres are A, B, C respectively touch in pairs, A and B in the point D; B and C in E; and C and A in F, while the angle ABC is right; DF is bisected in G, and H is taken so that DH : HA :: DG : GA. If HG is produced to meet EF in K, HK shall be perpendicular to EF.

11810. (H. J. WOODALL, A.R.C.S.)—Let O be a point in the plane of a given triangle, x, y, z the perpendiculars from O on to the sides; give relations connecting x, y, z, OA, OB, OC , and a, b, c .

11811. (J. G. TAYLOR, M.A., B.Sc.)—Prove that

$$| \cos(\theta_1 - \alpha_1), \cos(\theta_2 - \alpha_2), \dots, \cos(\theta_n - \alpha_n) | = 0.$$

11812. (W. J. JOHNSTON, M.A.)—If A, B, C, D are four points (of course imaginary) on a sphere of zero radius, $x^2 + y^2 + z^2 = 0$, prove that

$$BC \cdot AD + CA \cdot BD + AB \cdot CD = 0;$$

and show that this is algebraically equivalent to the relation connecting the common tangents to four circles which have a common circle-tangent.

11813. (BELLE EASTON, B.Sc.)—A body moves in an ellipse round a centre of force under the influence of gravity, its period being P. Its velocity is referred to rectangular axes in the plane of the orbit; find the components for a given time T.

11814. (T. MUIR, M.A., F.R.S.E.)—Given

$$u \equiv (a, b, c, d \sqrt{x, y})^{3+e} = 0.$$

Show that $\frac{d^2 y}{dx^2} \left(\frac{du}{dx} \right)^3 = 2e \begin{vmatrix} a & b & c \\ b & c & d \\ y^2 & -xy & x^2 \end{vmatrix}$, and generalize.

11815. (The late T. COTTERILL, M.A.)—Find (1) the locus of the cusps of a system of parallel curves; and show (2) that, in the neighbourhood of a cusp on a curve or its evolute, we can render visible two cusps and a node of a parallel to the curve by taking an appropriate modulus.

[Zeuthen has given $m(m+2n-5) + \tau$ as the order of the locus of the nodes of the system of parallels to a curve of the order m , class n , with τ bitangents.]

11816. (D. EDWARDES, B.A.)—If

$$cx/r^2 = \cosh \eta \cos \xi, \quad cy/r^2 = \sinh \eta \sin \xi,$$

and if the cylinder $\eta = \alpha$ be filled with viscous liquid and rotate about its axis with slow angular velocity ω , prove that, if there is no slipping at the surface, a steady motion of the liquid will be given by the current

$$\text{function } \psi = \frac{\omega c^2 (\sinh 2\eta - 2\eta \cosh 2\alpha)}{(2\alpha \cosh 2\alpha - \sinh 2\alpha)(\cosh 2\eta + \cos 2\xi)}.$$

11817. (ELIZABETH BLACKWOOD.)—Forces act along generating lines of a hyperboloid at equidistant points of the principal circular section. Consecutive generators are of opposite systems, and the forces act in the positive direction of the generators. If the forces be equal and their number even, show that they are in equilibrium; if their number be odd, find resultant.

11818. (R. W. D. CHRISTIE.)—Give a simple method of resolving any very large integer into three trigonals, and test your solution with a number such as $822512 = 818560 + 3916 + 36$.

11819. (J. O'CALLAGHAN.)—AB and CD are parallel lines given in position: A and C are given points in the lines, and E a given point without them; it is required to draw from E a straight line EBD, cutting the parallels in B and D, so that the sum or difference of the squares on AB and CD may be given or a minimum.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a *separate* paper (otherwise, when used for printing, the Editor has the labour of entirely *re-writing* such articles); (b) to make their Solutions as short as possible; (c) to send all Questions *early in the month*, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to *prepay* the postage in full; and (f) to send all communications to

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LONDON MATHEMATICAL SOCIETY.

Thursday, December 8th.—Mr. A. B. Kempe, F.R.S., President, in the Chair. Messrs. H. G. Dawson, M.A., Fellow of Christ's College, Cambridge; W. J. Greenstreet, M.A., formerly of St. John's College, Cambridge; and W. Welsh, M.A., Fellow and Mathematical Tutor of Jesus College, Cambridge, were elected members.

The following communications were made:—

"On a Theorem in Differentiation, and its Application to Spherical Harmonics," Dr. Hobson.

"On Cauchy's Condensation Test for the Convergency of Series," Dr. M. J. M. Hill.

Cauchy's Condensation Test for the Convergency of Series is as follows:—

If $f(n)$ be positive for all values of n , and constantly decrease as n increases, then the series $\sum f(n)$ and $\sum a^n f(a^n)$ are both convergent or both divergent, where a is any positive integer not less than 2.

There is a clear reason why a cannot be unity, for then $\sum a^n f(a^n) = \sum f(1)$, which is always infinite.

It is proved in Chrystal's "Algebra" that the theorem is also true if a have any positive fractional value not less than 2 (see Part II., Chap. xxvi., § 6, Cor. 1). The proof there given, when a lies between the consecutive positive integers p and $p+1$, is based on Cauchy's proof for the two cases $a = p$ and $a = p+1$. But this proof will not apply when $1 < a < 2$, because Cauchy's proof will not apply when $a = 1$. Yet it does not seem possible to assign a reason for excluding values of a between 1 and 2, for Cauchy's method appears to depend on this, viz., that for increasing values of n the expression $f(a^n)$ occupies more and more advanced positions amongst the terms of the series $\sum f(n)$; but this is possible if $1 < a < 2$, as well as when $a > 2$.

If $a < 1$, then this is no longer true.

The problem then considered in this paper is so to recast the proof for fractional values of a as not to exclude the case $1 < a < 2$.

The complete theorem will then stand thus:—

If $f(n)$ be positive for all values of n , and constantly decrease as n increases, then the series $\sum f(n)$ and $\sum a^n f(a^n)$ are both convergent or both divergent if $a > 1$.

The demonstration depends on the following theorems.

I. If $\sum a^n f(a^n)$ be convergent, then

$$\sum_{n=1}^{\infty} f(n) < f(1) + \dots + f(t_s) + (a-1+a^{-s}) \left[\sum_{n=1}^{\infty} a^n f(a^n) - \sum_{n=1}^{n=s-1} a^n f(a^n) \right],$$

where s is any integer so large that

$$a^{s+1} - a^s > 1,$$

and t_s is the greatest integer in a^s , a being greater than 1.

II. (A.) If $\sum a^n f(a^n)$ be divergent, and if $a^n f(a^n)$ diminish as n increases beyond a certain value, then

$$\sum_{n=1}^{\infty} f(n) > f(1) + \dots + f(t_s) + (1-a^{-1}-a^{-s-1}) \left[\sum_{n=1}^{\infty} a^n f(a^n) - \sum_{n=1}^{n=s} a^n f(a^n) \right].$$

II. (B.) If $\sum a^n f(a^n)$ be divergent, and if $a^n f(a^n)$ do not diminish as n increases beyond a certain value, then

$$\sum_{n=1}^{\infty} f(n) > \sum_{n=1}^{n=s} f(n) + \sum_{n=s+1}^{\infty} A n^{-1},$$

where s is an integer taken large enough, and A is some finite quantity.

"Additional Note on Secondary Tucker-Circles," J. Griffiths, M.A.

"Notes on Determinants," J. E. Campbell, M.A.

"A Geometrical Note," R. Tucker, M.A.

BE is the "S." line through B , cutting AC in E . Through E we draw the parallel and antiparallel EF , EF' to BC , and ED' , ED to AB , then DF , $D'F'$ are respectively positive and negative isoscelians to angle B . It is shown that the triangles DEF , $D'E'F'$ (similar to ABC) have a common circumcircle, which is a Tucker-circle of ABC . This and the two like circles for A , C , of course, touch the B . ellipse. Other properties of the circles are indicated.

The President (Major MacMahon, F.R.S., in the chair) made an impromptu communication upon a problem which he thought to be subsidiary to the solution of the "Stamp-folding" problem. He exhibited a large number of illustrative figures.

Messrs. Larmor, Baker, Love, Walker, and Lieut.-Col. Cunningham took part in the discussions on the papers.

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AND

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1. **DIPLOMAS.**—The Midsummer Examination of Teachers for the Diplomas of the College will commence on the 4th of July, and the Christmas Examination on the 2nd of January, 1894.

2. **CERTIFICATE EXAMINATIONS.**—The Midsummer Examination for Certificates will commence on the 13th of June, and the Christmas Examination on the 5th of December.

N.B.—The Higher Certificates of the College are recognised by Her Majesty's Judges, and by the General Medical Council, as guarantees of good general education; and consequently the holders of them, who may be intended for the Legal and Medical Professions, are exempted from the necessity of submitting to the Preliminary Literary Examinations held by the Incorporated Law Society, and by the various Medical Corporations of the United Kingdom. The Lords of the Committee of Council on Education admit the holders of the same Certificates, without further examination, to the Competition for allowances granted to Students of the Junior Training Class of the National Art Training School. All the College Certificates above the Third Class which include Latin are also recognised by the Pharmaceutical Society of Great Britain.

3. **EXAMINATIONS FOR CERTIFICATES OF PROFICIENCY IN MERCANTILE SUBJECTS.**—The next Examination will take place on the 12th of June.

4. **PROFESSIONAL PRELIMINARY EXAMINATIONS.**—These Examinations are held in March and September. The next Examination will commence on the 7th of March.

5. **INSPECTION OF SCHOOLS.**—Visiting Examiners are appointed by the College for the Inspection and Examination of Public and Private Schools.

PRIZES.

Diploma Examination.—In addition to the Doreck Scholarship of £20, the following Prizes will be competed for: Theory and Practice of Education, £10; Classics (Greek and Latin), £5; Mathematics, £5; Natural Science, £5.

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The Regulations of the above Examinations can be obtained on application to the Secretary at the College, Bloomsbury Square, W.C.

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PRELIMINARY EXAMINATION OF MEDICAL STUDENTS.—The COLLEGE OF PRECEPTORS will hold an Examination for Certificates recognised by the General Medical Council as qualifying for Registration as a Medical Student, on the 7th, 8th, and 9th of March.

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COLLEGE OF PRECEPTORS.— (Bloomsbury Square, W.C.)

The next Monthly Evening Meeting of the Members will take place on Wednesday, the 8th of February, when Professor W. H. HUDSON, M.A., will read a Paper on "The Teaching of Mathematics."

The Chair will be taken at 7.30 p.m., and a discussion will follow the reading of the Paper.

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For Syllabus, see page 48.

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After January, 1892, the Examination must be passed as a whole, no separate subject being allowed.

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The Educational Times.

COLLEGE OF PRECEPTORS.—HALF-YEARLY
GENERAL MEETING.

THE Half-yearly General Meeting of the members of the Corporation was held at the College, Bloomsbury Square, on Saturday, January 21st.

The Secretary having read the advertisement convening the meeting, Dr. WORMELL, Vice-President, was appointed Chairman.

The Report of the Council was laid before the meeting, and was taken as read, a copy having been sent to every member. It was as follows:—

REPORT OF THE COUNCIL.

The Council beg to lay the following Report of the proceedings of the past half-year before the Members of the Corporation:—

1. They have the satisfaction of reporting that the number of entries for the Christmas Certificate Examination, notwithstanding an unusually large number of withdrawals on account of illness, shows an increase on the number of candidates entered for the last December Examination, which was itself considerably in excess of every previous examination conducted by the College. The total number of candidates was 10,750, as compared with 10,562 in December last. At the Midsummer Examination, when there was a slight falling off, the number of entries was 5,650, so that the total for the year exceeds 16,000, and is about the same as for last year. From the Colonial Centres larger numbers are sent in than last year, and there is every prospect of a further extension of the examination in this direction. The Public Distribution of Prizes and Certificates to the successful candidates at the last Midsummer Examination took place at the College on the 26th of July, when the Chair was taken by Dr. J. G. Fitch. Due notice will be given of the forthcoming Distribution.

2. In addition to the general Examination for Certificates, the Professional Preliminary Examination, for intending medical students and others, was held, as usual, in September last, and was attended by 218 candidates.

3. For the Christmas Examination of Teachers, for the College Diplomas, 160 candidates have entered their names, as compared with 118 at Christmas last; the number of entries is considerably larger than at any previous Examination for Diplomas since their institution in the year 1849. The Examination will be held in London, and at Local Centres in Birmingham, Bristol, Leeds, and Manchester. The number of entries at the local centres shows a considerable increase on previous examinations.

4. In addition to their own examinations of pupils and teachers, and the examination of a number of schools by visiting Examiners, the Council have conducted, as usual, during the past half-year, the Preliminary Examinations of the Royal Veterinary College and of the Pharmaceutical Society of Great Britain, as well as the Examination for the Certificates of the London Chamber of Commerce.

5. The Twentieth Annual Series of Lectures to Teachers, on the "Science and Art of Education," which began in February last with a

course of twelve lectures on "The Science of Education," by Dr. James Sully, was concluded on the 15th of December with the last of a course of twelve lectures, entitled "Practical Criticisms and Suggestions on Teaching," by the Rev. Canon Daniel. The Council are happy to report that these lectures have been attended by a larger number of students than for many years past.

6. The usual Monthly Evening Meetings of the Members have been held during the past half-year, at which the following papers have been read:—

October 12th.—"On Herbert Spencer's Chapter on Moral Education": by Professor S. S. Laurie, M.A., LL.D.

November 16th.—"On Old and New Methods of Teaching Modern Languages": by J. J. Beuzemaker, B.A.

December 14th.—"On Richard Mulcaster and his 'Elementarie'": by Foster Watson, M.A.

The papers, and the discussions on them, have been reported, as usual, in the *Educational Times*.

7. The Council are happy to report that they have been enabled, out of the surplus accruing from the regular operations of the College, to place a sum of £300 to the credit of the Benevolent Fund (out of which grants have been made during the year to the amount of £95), and to transfer a further sum of £300 to the credit of the Teachers' Training Fund, which now amounts to £2800. They propose, as soon as possible, to proceed to apply this Fund to the purposes for which it has been accumulated; and a special committee has been appointed to consider how these purposes may best be carried out.

8. The Bill for the Registration of Teachers in Secondary Schools, which was introduced by Sir Richard Temple in the last session of Parliament, will be brought forward again in the ensuing session.

9. The Bill for promoting Secondary Education in England, which was introduced by Mr. Arthur Acland and Sir Henry Roscoe in the last session of Parliament, has engaged the earnest attention of the Council, and a special committee of their body has been appointed to examine the provisions of the Bill in detail, and to consider what action it would be expedient for the Council to take, should a similar measure be brought forward next session. This Committee has not yet reported, but the Council are still convinced that great improvement in secondary education would be effected by the creation of a General Educational Council, as provided for in Sir Richard Temple's Bill, and by raising the status of the qualified teacher. They are further of opinion that, if legislation of wider scope be attempted, great care should be taken to avoid inflicting unmerited hardship on individuals, and interfering with that freedom of personal enterprise to which progress in education, as in other departments of intellectual activity, is so largely due.

10. During the past half-year, the Diploma of Licentiate has been conferred on one candidate, and that of Associate on thirty, who had passed the required examinations. Forty-four new members have been elected, while notice has been received of the withdrawal of six. The Council regret to have to report the death of the following members:—Miss E. Butcher, Mr. P. Capon, Dr. Hofmann, Mr. J. Reynolds, L.C.P., Mr. H. Sergeant, Dr. H. M. Shera, Mr. J. Speciall, A.C.P., Mr. J. Watkins, L.C.P.

Dr. BELL, in reference to paragraph 3, said he thought this was the most satisfactory paragraph in the Report, showing, as it did, that the diplomas of the College were being more highly valued. With regard to the sum of £2,800, which now stood to the credit of the Teachers' Training Fund, as stated in paragraph 7, he would be glad to know whether the Council were absolutely committed to spend the money, and their special object.

Mr. PINCHES said the number of entries for the Diploma examination this time was larger than on any previous occasion since the examination was started in 1849. The result was probably to some extent attributable to a recent decision of the General Meeting in conceding to holders of the College diplomas the privileges of membership without the payment of any subscription. With regard to the Teachers' Training Fund, it was to be remarked that this fund was being accumulated by the direction of the General Meeting, which had adopted a recommendation of the Council, and it was quite within the power of the General Meeting, at any time, to divert it to any other purpose if they saw fit to do so. It was to be regretted that the Council were not able this year, as during the last five years, to place a larger sum than £300 to the credit of the fund; but the explanation would be found in another item in the accounts which showed that no less than £290 had been spent in scholarships for intending teachers, as against £85 in the previous year.

Mr. WILSON hoped that the Council were proceeding in this matter with due circumspection, because if secondary education became a public concern, and was dealt with by the State, it might very well happen that the College need not spend such a very large sum in founding a training college. He apprehended that if the State took up the question of secondary education, it would have to regulate the supply of teachers, and make provision for them, as in the case of the elementary education. The educational horizon was rather obscure, and, therefore, it seemed

to him that the Council might very well hold its hand for a time in regard to the training college.

Mr. BARROW RULE, in moving the adoption of paragraph 8 of the Report, congratulated the Council on standing to their guns on this question. It was now thirty-three years since he had first advocated this matter, and had teachers at large entered as heartily into the scheme as had the Council of the College, they would not at the present time be discussing the proposals of such a Secondary Education Bill as had been brought before the country in the last session of Parliament.

Mr. RADFORD suggested that members of the College should use their best endeavours to secure the support of their Parliamentary representatives for the Registration Bill.

In reference to paragraph 9, Mr. BROWN congratulated the Council upon the line they had marked out for themselves. He thought the members who were not able to be present that day would appreciate the line of action which the Council were taking up as one consistent with the Charter—namely, to see that the interests of those schools which had been doing good work in the past should not suffer from any hasty action of the legislature.

The DEAN said it was the fact, as stated in the Report, that the Special Committee had not yet reported, but the Committee had agreed upon a draft report, the substance of which he had been authorized to communicate to the meeting. The Committee had gone very carefully through the Bill which was introduced by Mr. Acland and Sir Henry Roscoe last year, and had found in it a good deal to differ from and to criticise. They were quite aware that a Bill brought forward by a private member on a new subject was a very different thing from a bill brought forward by a responsible Minister on a subject which had already been some time before the country. The one was generally called a "kite," the other was a legislative measure. The committee had agreed upon a certain number of points which they deemed important, and which any member bringing forward a measure on secondary education might reasonably take into account. They had especially considered the way in which the provisions of the Bill might affect private schoolmasters, who were almost ignored in it. It was pretty clear that in any large measure for secondary education there must be a recognition of existing schools that were efficient. It might be found necessary to establish some fresh schools, and to develop others; but in all previous attempts at legislation in the field of secondary education there had been provision for placing efficient private schools on the same footing as those supported directly or indirectly by public money. That was one of the points which the committee had endeavoured to emphasize in the resolutions they had drawn up. They had also laid stress on pressing forward a Registration Bill, either in advance of or concurrently with a general Bill for organizing secondary education. They attached great importance to efficient central control, because it was well known that local bodies, in dealing with education, were very apt through pure ignorance to make grievous blunders. It certainly would be essential, as had been the case in the Welsh Education Act, to bring these local authorities under effectual control. The working of that Act, by accident or design, had practically come under the Charity Commissioners; and the schemes for new schools in Wales were being considered by the authorities who had done such good work in organizing the endowed schools. The Committee also laid stress on that central authority being a different authority to that which controlled primary education. In all the discussions on the Registration Bill, it was felt very strongly that the lines on which primary education was organized were not the lines on which secondary education should run. No doubt primary education had somewhat drifted from the original idea of a body of teachers, in a comparatively inferior position, controlled by a board of Inspectors. The teachers had naturally risen to a very much higher standard, and reasonably desired greater liberty. Any scheme for secondary education must start with the idea that the teachers, as a rule, were capable of taking care of themselves. The committee had also inserted provisions for associating educational experts with committees of inquiry into the wants of localities, and for providing that efficient private schools should have equal opportunities with public schools of competing for any endowments which took the form of scholarships or prizes. It was very difficult to give direct public aid to a private school—which in the nature of things would thus almost cease to be a private school. But wherever aid was given indirectly, it should be possible for efficient private schools to get the benefit of it.

Another point was that there should be facilities for the transfer of efficient private schools to the educational authorities in their respective neighbourhoods. The Committee were in hopes that they had laid down principles which, while they offered efficient guarantees for the protection of good schools from undue interference with their interests, did not betray any lack of zeal for the effort being made to supply what was believed to be a great public want.

Mr. WILSON said that, on a first inspection, the resolutions of the Committee appeared to him, as a whole, sensible and fair. With regard to one of them, he would call attention to the fact that, in the organization of secondary education, efficient private schools had frequently been recognised by the local authorities, and he knew of several cases where schools had been taken over bodily, and the master given an appointment, although he was not a University man. Possibly he would not have been selected for the post if the governing body had not taken into account the fact that he had been working in the district for many years, and established a school which was in a flourishing condition. He hoped it would also be taken into account that the pupils should not suffer, for he considered that it would be better to give a man some compensation rather than keep him on if he were not thoroughly efficient. With regard to the second recommendation he thought it was hardly wise to put in the fore-front of the resolution, that a Registration Bill should precede any measure for the promotion of secondary education. There were evils at present existing in connexion with secondary education which ought to be dealt with apart from the question of the registration of teachers. If they had a thoroughly well organized system of secondary education he was of opinion that the registration of teachers would come as the natural corollary, and it would not be advisable, he thought, for the Council to pledge themselves to the view that a Registration Bill should precede any measure for the promotion of secondary education. The Council were also assuming rather more than they had any right to do. He might take the analogy of the Medical Council. They had no knowledge of what was going on in the various parts of the country until a scandal or an abuse came before them, when a committee was appointed to inquire into the matter. An Educational Council, such as it was proposed to establish by Sir Richard Temple's Bill, would not necessarily have cognisance of the whole education of the country; their functions would be in many respects judicial and ministerial, and they would not necessarily have the full knowledge that it was alleged they would have. He quite concurred in the remarks made by the Dean as to efficient private schools.

Mr. BARROW RULE dissented from the view of the last speaker, who stated that because the Medical Council could not do this or that, therefore the proposed Educational Council would have no further powers in relation to secondary education. It was most important that there should be some central body to control local bodies. Nothing could be more unfortunate than for secondary education to be handed over to the County Councils. In the case of primary education the intervention of the State was entirely due to the fact that primary schools received public money, and the only reason why the State inspected such schools was in order to see whether the conditions on which the grants were made were complied with. Upon the inspectors coming for the purpose of ascertaining whether the minimum requirements were complied with, they had taken upon themselves, at the instigation of the Education Department, to make this, that, and the other suggestion, and thus gradually a net had been woven round the elementary teacher which to a certain extent had deprived him of his liberty of action. According to Mr. Acland's Bill, private schools would have to submit to the control, not of an educational authority in London, but to some local authority in the country. As a matter of fact they knew that School Boards, having to do exclusively with primary elementary education were frequently elected, not so much on educational as on political or religious grounds; and for such a body to have the control of secondary education would, in his opinion, be most calamitous. With regard to registration, he thought the previous speaker had forgotten that the passing of a Registration Bill necessarily involved the appointment of a central Council, and that this central Council would be a father and a counsellor to the secondary teachers of the country. He considered the Council had acted wisely in giving precedence to the Registration Bill, as nothing would have a greater influence than the passing of such an Act in curing the defects in the secondary education of the country.

Sir PHILIP MAGNUS said paragraph 9 had his very hearty support,

and that they were greatly indebted to the Council for having put in the last clause, which was most important. As to the recommendations which the Committee had made, he thought they were likely to do a great deal of good if adopted and carried out by the Council, and he was of opinion that the Council should lay them before the Departmental Committee which was now sitting to consider the question of secondary education. Any body of men who were concerning themselves with the question of the registration of teachers would gain a great deal of experience, which would be useful to them hereafter when considering the clauses of a Secondary Education Bill. It was very desirable that the action of local authorities (by which he supposed was meant County Councils) should be controlled by some central authority. He supposed it would be understood that any central authority sitting in London, even if it were an Educational Council, would to some extent be under the control of the Education Department. He did not know whether this was intended, or that some central authority should be established altogether independent of that Department, and he was not prepared at the present moment to pronounce a decided opinion upon the matter.

The DEAN said he thought that what the Committee had in mind was that there should be a separate Department dealing with secondary education. What that Department should be was a question which the Committee did not feel itself competent to discuss. For instance, they had the educational side of the Charity Commission dealing with endowed schools, and it might be very difficult to separate the unendowed or rate-endowed schools entirely from them. They purposely abstained from saying more than that they wished them to be kept separate as much as possible from primary education.

Mr. W. BROWN thought that the idea running through the mind of the Committee was that they should avoid, by every possible means, the risk of secondary education coming under an Education Department exactly the same as that which controlled primary schools.

Dr. BELL asked whether it was proposed that the meeting should ratify the recommendations of the Special Committee of the Council, or whether they would have another opportunity of discussing those recommendations.

The CHAIRMAN explained that, if an emergency arose, it was competent for any twelve members of the College to request the secretary to convene a Special General Meeting to consider the situation. If the Secondary Education Bill were to be brought forward in the next session, he felt sure there would be no difficulty in finding twelve members who would require the subject to be brought forward for discussion by the general body.

Dr. BELL expressed himself as satisfied with this explanation. He did not believe that the House of Commons would ever pass an Act for the Registration of Secondary Teachers. They would not register the lowest class of such teachers, nor would they be able to register the higher. There was only a middle portion that wanted registering. The subject had been before the public for the last thirty-three years, and was likely to occupy their attention for the next thirty-three. The question raised in paragraph 9 was one which affected the very existence of private schools, and he trusted that the effect of these otherwise most wise recommendations would not be neutralized by putting forward a statement that registration would supersede the necessity for any other legislation.

Mr. PINCHES said he was at a loss to account for Dr. Bell's confident assertion that the House of Commons would never give its assent to registration. For did not the House of Commons last year not only consider, but refer to a Select Committee, the consideration of the question of registration, and did not that Committee, after most careful inquiry, actually recommend the registration of teachers in secondary schools? The only objection that seemed to be taken to the recommendations of the Committee was in regard to that advocating that priority should be given to a Registration Bill. They should remember the position they were in in discussing this question. It had been asserted that this Bill was being promoted by Mr. Acland, but to that he took exception. The Dean had properly described it as a kite, and had drawn a distinction between such a Bill and what was likely to be made the basis of legislative action. Only last week Mr. Acland had announced that he had found cause to modify his opinion upon this subject. He did hope that the meeting would support the action of the Council in the matter, by unanimously passing paragraph 9. With regard to the recommendations of the Special Committee, he thought the Dean had made it quite clear what action the Council had taken. In

the minds of the promoters of Mr. Acland's Bill there was evidently some central authority to be a Court of Appeal in case of injustice being done by the persons who formed the local committees, and the last clause of the Bill provided that the Charity Commissioners should every year cause to be laid before both Houses of Parliament a report of their proceedings. The Council considered that was not the right body to occupy that position. They felt that if they were to have a Registration Bill such as that which they had been promoting for some time past, they should have, in the Educational Council to be created by that Bill, a Court of Appeal in whom the teaching profession would have confidence; and it was mainly for that reason that registration had been put in the forefront.

Dr. CONDER felt that it was absolutely necessary that the College of Preceptors should do all they could to protect the interests of private schoolmasters. He was a member of a County Council, and of the technical committee of that Council, and he could hardly explain the difficulties he had experienced in getting private schools recognised at all in their scheme. It had finally been conceded that four only out of twenty scholarships might be held by children educated in private schools, whilst sixteen others were to be held by boys who had been educated for three years in an elementary school, and had passed the fifth standard. When he pointed out how unjust this proposal was, a nobleman, who was a member of the County Council, spoke of the absolute necessity of preventing public funds going to subsidize private schools, and directly afterwards went on to state, as an instance of the way in which public elementary schools were abused, that he had heard of cases where children were sent to them in the carriages of their parents.

Mr. THORNTON was glad that the Council had taken the members into their confidence, by informing them what was proposed to be done. He for one should vote in favour of paragraph 9, but it was very desirable that the matters which had been put before them should be criticised and discussed from every point of view, even if they were not found to be in accordance with the general sense of the meeting, and still less with public opinion outside. It was said that precautions should be taken against the interests of private schools being affected, but he did not see how that could be done, unless private schools shared in grants of money on the same footing as public schools. Mr. Acland held up to admiration the secondary schools of Birmingham—in which the fee was not more than £3 a year, and where a lower kind of secondary education was given, in so-called elementary schools, for nothing. The ideal at which Mr. Acland aimed was the providing of secondary education at one-fourth of its prime cost. If that was to be done, it was impossible that the interests of the best private schools in the country could remain unaffected—they must, in fact, ultimately cease to exist. He could not see any reason why private schools should not share in grants of public money, as this was not against English precedent, having already been sanctioned in the grants by the Science and Art Department. In Denmark, not only were private schools recognised by the State, but they were actually supported, in part, by public grants.

Mr. ORCHARD said that, the question of registration having now been before the public for more than twenty years, there was no reason for further delay. Unless the Registration Bill preceded the other measure, they would have very little chance of getting a Registration Bill at all. He should like some explanation with regard to No. 10 of the Committee's recommendations.

The DEAN said this clause was drafted in order to meet the case where a principal might wish to transfer his school to the County Council, and the building and site belonged to his landlord. Under those circumstances it would be necessary that reasonable facilities should be given to the local authority to acquire the property at a fair price.

The CHAIRMAN thought that private schoolmasters ought to be very well satisfied with the progress of public opinion on questions that concerned them, during the last few weeks. He had recently had put before him the opinions of a number of members of Parliament, and he was sure that many more had had their interest aroused in the question through the discussions which various associations had had on the question. Many members of Parliament had warmly expressed a view very much resembling that expressed at the end of paragraph 9. He also knew that County Councils had been considering the question in the same sense. He was not mentioning this to suggest that the County Councils were the proper local bodies to consider the educational wants of any district, but it did seem a satisfactory indication from the point of view of the private schoolmasters that County

Councils had taken up the question, and had been considering the rights of private schoolmasters in their districts. A member of the Hampshire County Council had recently written to him giving some reasons for supposing that the County Councils would safeguard the interests of private teachers in the event of their being charged with the duty of looking after secondary education. He pointed out that these councils were elected bodies, and that the wishes of every district in the county were represented by the members. He drew an illustration from the fact that in one town there was only one secondary school, and that a private one. This town was very proud of its school, owing to the high position many of its scholars had taken, and he said it would be absolutely impossible for anything to be done by the County Council which was in any way antagonistic to the interests of that school. He (the Chairman) also thought it very encouraging that at the Conference of Headmasters which was held last week, one member after another, in discussing the Secondary Education Bill, declared his opinion that the private schoolmaster should be considered in the provisions of the new Bill. That Association of the masters of endowed schools might have been excused if, taking a somewhat narrow view of their own interests, they had not considered the question at all, but it was very satisfactory to find that they could take so broad a professional view of the question, and discuss it in such a fraternal spirit. Referring again to the private schools, he hoped they would not be so hasty in this matter as to stultify themselves as regards future action. He hoped they would not waste all their energies at once, when there was nothing definite before them, but that they would keep the question in a temperate and healthy manner before the country, and reserve their strength until a Secondary Education Bill was actually brought forward.

The Report of the Council, together with the accompanying abstract of accounts, was then adopted.

The meeting then proceeded to the election of twelve members of Council, to fill the places of the twelve retiring by rotation, and three auditors.

The Chairman having appointed Mr. Heppel and Mr. Dickinson to act as scrutators, the voting papers were distributed, and the election was proceeded with. On the scrutators subsequently presenting their report, the Chairman announced that the following had been duly elected:—

MEMBERS OF THE COUNCIL.

E. M. Dillon, M.A., LL.D., 19 Albert Square, Clapham Road, S.W.
H. W. Eve, M.A., F.C.P., University College School, Gower Street, W.C.
Rev. G. Frost, LL.D., F.C.P., 69 Warwick Road, Earl's Court, S.W.
W. H. Harris, B.A., B.Sc., Oberlin House, St. Leonard's Road, Ealing.
Rev. R. Lee, M.A., Christ's Hospital, E.C.
The Right Rev. the Lord Bishop of London, F.C.P.
Sir Philip Magnus, B.A., B.Sc., F.C.P., 48 Gloucester Place, W.
J. Ogle, B.A., F.C.P., 61 Sackville Road, Hove, Brighton.
Rev. G. P. Pearce, B.A., A.C.P., 3 Blenheim Parade, Cheltenham.
W. J. Reynolds, M.A., F.C.P., 55 Addison Mansions, W.
J. Stewart, A.C.P., University School, Hastings.
R. Wormell, M.A., D.Sc., F.C.P., Central Foundation School, E.C.

AUDITORS.

J. Bell, M.A., LL.D., 27 Caversham Road, N.W.
Rev. T. Mitcheson, B.A., L.C.P., Clareville, Pelham Road, Wimbledon.
Jas. Swift, 229, New Cross Road, S.E.

The Dean then submitted his report, which had been printed and distributed to the members present, and which was as follows:—

THE DEAN'S REPORT.

In addition to the general statement of the examination work of the College during the past half-year, embodied in the report of the Council, I have now to submit to you, in detail, the statistics and results of the various examinations.

The Christmas Examination of Pupils took place on the 6th to 9th December, and was held at 268 Local Centres and Schools. In London there were nine Sub-centres—two for boys and seven for girls. The Provincial Centres were Aberystwith, Alton, Ashbourne, Ambleside, Abergavenny, Amberley, Anerley, Barnstaple, Bath, Biggleswade, Birmingham, Bishop's Stortford, Blackpool, Blandford, Bodmin, Bognor, Bolton, Boston, Bournemouth, Brampton (Cumberland), Bridgwater, Brighton, Bristol, Burnley, Bury St. Edmunds, Buxton, Beverley, Bexley, Banbury, Bridport, Bushey Heath, Bedford, Bromley (Kent), Burnham, Betley, Bromyard, Bloxham, Birkenhead, Burford, Bexhill, Baldock, Brecon, Brampton, Barnsley, Cardiff, Cheltenham, Chester, Clacton, Colchester, Cork, Crewe, Croydon, Cowley,

Camborne, Carnarvon, Crewkerne, Castle Carey, Criccieth, Carlisle, Corsham, Congleton, Canterbury, Chertsey, Derby, Durham, Darlington, Devizes, Dewsbury, Dolgelley, Ellesmere, Easingwold, Evesham, Epsom, Exmouth, Eltham, Eccles, Edgware, Faversham, Farnworth, Ealing, Eastbourne, Eaton Socon, Exeter, Farnham, Folkstone, Gillingham, Goole, Gravesend, Grimsby, Guildford, Grantham, Grays, Gildersome, Gelligaer, Halifax, Harrogate, Hastings, Haverfordwest, Hereford, Honiton, Hull, Hornsea, Huntingdon, Holbeach, Hatfield, Hungerford, Hawkhurst, Hipperholme, Halstead, Horsham, Herne Bay, Havant, Ilfracombe, Ilkley, Ipswich, Isle of Man, Isle of Wight, Ingleton, Ironbridge, Jersey, Keighley, Kettering, Kidderminster, King's Lynn, Kirby Lonsdale, Kendal, Kingsland, Leamington, Leeds, Leicester, Liverpool, Llandudno, Loughton, Longton, Leominster, Lytham, Louth, Ludlow, Lewes, Luton, Lincoln, Liskeard, Maidstone, Malvern, Manchester, Margate, Midhurst, Malmesbury, Marlborough, Market Harborough, Morecambe, Matlock, Marazion, Newark, Newcastle-on-Tyne, Newport (Mon.), Northampton, Norwich, Nottingham, Newton Abbot, Newton (Mont.), Northwich, Newport (Salop), Needham Market, New Malden, Oldham, Ongar, Over, Paignton, Plymouth, Portsea, Portsmouth, Peterborough, Purley, Penzance, Ramsgate, Reading, Redruth, Retford, Richmond (Surrey), Ripon, Rochester, Ramsey (I. M.), Ruabon, Royston, St. Asaph, Salisbury, Scarborough, Sheffield, Shrewsbury, Snettisham, Southampton, Southend, Southport, South Shields, Stockton, Stroud, Sudbury (Suffolk), Sunderland, Swansea, Sittingbourne, Southsea, Stamford, St. Helens, Stratford-on-Avon, Seaford, Scorton, Saltburn, Sevenoaks, St. Ann's, Stowmarket, St. Austell, Saffron Walden, Sale, Sydenham, Selby, Taunton, Tewkesbury, Thirsk, Tiverton, Torquay, Tregoney, Tunbridge Wells, Thorne, Towcester, Ullesthorpe, Uckfield, Wellingborough, Wellington (Salop), Weston-super-Mare, Weymouth, Wincanton, Windsor, Wisbech, Wolverhampton, Whitehaven, Woking, Watford, Wrexham, Westgate, Wimborne, Ware, Worksop, Warlingham, Winchester, Yarmouth, and York. The Colonial Centres were Kingston in Jamaica, and Freetown and Lagos in West Africa.

The total number of candidates examined was 10,444, of whom 5,456 were boys, and 4,988 girls.

Taking the Midsummer and Christmas Examinations together, the total number of candidates examined for Certificates during the year (not including those who attended the supplementary examinations in March and September) was 15,863.

The following table shows the number of candidates presented at the Certificate Examinations during the past five years, with proportion of those who have obtained certificates:—

Year ending	Entered.	Passed.	Percentage.
Christmas, 1888	14,748	11,209	76.0
„ 1889	14,640	11,341	77.5
„ 1890	15,535	12,309	79.2
„ 1891	16,051	13,068	81.4
„ 1892	15,774*	12,646	80.2

* Not including 89 Candidates examined at Colonial Centres.

The number of passes in the above table includes a considerable number of candidates who failed to pass in the class for which they were entered, but who, under our rules, are entitled to receive Certificates of a lower class. The following table shows the proportion of the candidates at the recent Christmas Examination who passed in the class for which they were entered:—

	Entered.	Passed.	Percentage.
Entered for 1st Class	634	357	56
Entered for 2nd Class	3,652	2,198	60
Entered for 3rd Class	6,069	4,437	73

At the above examination 88 candidates who took 1st Class papers in French or German offered themselves for the oral examination (dictation and conversation) in those languages. Of these, 78 candidates took French, of whom 73 passed; and 40 German, of whom 38 passed.

The number of candidates who presented themselves at the Midsummer Examination for Certificates of Proficiency in Mercantile Subjects was 11, of whom 6 have obtained Certificates.

At the Supplementary Examination for First and Second Class Certificates, which was held on the 6th to 8th of September in London and at four Provincial Centres, viz., Birmingham, Bristol, Leeds, and Liverpool, 219 candidates presented themselves. The number of candidates examined at these Supplementary Examinations during the year was 386.

The Christmas Examination of Teachers for the College Diplomas took place on the 3rd of January and four following days in London and at the following local centres: Birmingham, Bristol, Leeds, Manchester, Jersey, Hong Kong, and at Darjeeling and Lahore in India. It was attended by 144 candidates, of whom 82 were men, and 62 women. The subjects of examination included the Theory and Practice of Education, Scripture History, English Language, English History, Geography, Arithmetic, Algebra, Euclid, Trigonometry, Analytical Geometry, Differential and Integral Calculus, Latin, Greek, French, German, Natural Philosophy, Physics, Animal Physiology, Zoology, Geology, Chemistry, Drawing, and Music. On the results of this examination, 1 candidate obtained the Diploma of Fellow, 4 that of Licentiate, and 37 that of Associate. The "Doreck" Scholarship of £20 has been

awarded, and also the following Prizes: £10 for Theory and Practice of Education, £5 for Mathematics, and £5 for Natural Sciences.

The Preliminary Literary Examinations of the Royal Veterinary College, and of the Pharmaceutical Society, have been held, as usual, at the times appointed by those bodies. For the Royal Veterinary College 84 candidates have been examined during the past year, and for the Pharmaceutical Society 1,363. At the Examination for Junior Certificates of the London Chamber of Commerce, which was held in July, 79 candidates were examined.

The Report was adopted.

Mr. BROOKE then moved the following resolution, of which due notice had been given:—

“That the Librarian be requested to keep files of specimen (a) weekly reports, (b) termly reports, (c) other special printing in use in schools other than elementary ones; while Members of the College engaged in education, and those sending in pupils for its examinations, be hereby invited to send to the Library for this purpose any of the above they use.”

He dwelt on the practical utility, to teachers, of such printed forms, for comparison with their own, and especially to a teacher who was engaged in organizing the work of a new school.

The resolution was seconded by Mr. Stewart, and carried unanimously.

Two other resolutions, also standing in the name of Mr. Brooke, were withdrawn by the mover, with the consent of the meeting.

Mr. THORNTON, having been called upon to move a resolution standing in his name, said that when the notice of motion was given, he had no idea what the Report of the Council would be. It would be only going over ground that had already been gone over, if he were to bring forward the resolution, as nothing more could be said about it than had been said already. With the permission of the meeting he would withdraw the motion.

A vote of thanks to the Chairman concluded the proceedings.

After the meeting a number of members and friends dined together at Frascati's Restaurant, under the presidency of Sir Philip Magnus. Among those present were Mr. Atkinson, Mr. Barlet, Mr. Beckton, Dr. and Mrs. Bell, Rev. A. J. Bennoch, Mr. Beuzemaker, Mr. Bidlake, Rev. C. W. Brooke, Mr. G. Brown, Mr. W. Brown, Mr. Bruce, Mr. Brunwin, Dr. Buchheim, Mr. and Mrs. Charles, Mr. and Mrs. Christa, Mr. Crichton, Rev. Dr. Colles, Mr. Dickinson, Mr. Dymes, Mr. Eve, Mr. Hagreen, Mr. Harris, Mr. Heppel, Mr. and Mrs. Hodgson, Mr. Inglis, Mr. and Mrs. King, Mr. Jefferson, Mr. Low, Mr. and Mrs. Milne, Rev. T. Mitcheson and Mrs. Mitcheson, Mr. Munns, Mr. Oldfield, Mr. E. Pinches, Mr. Reynolds, Mr. Ridgway, Mr. and Mrs. Robinson, Rev. Dr. Scott and Mrs. Scott, Dr. R. P. Scott, Mr. Stewart, Mr. Storr, Mr. Swift, Mr. Thomas, Mr. and Mrs. Tidy, Mr. F. Watson, Dr. Westbrook, Mr. Wilson, and others. The proceedings were, as on previous occasions, enlivened by music and recitations by several of those present, alternating with the toasts which were given and responded to.

THE ASSOCIATION FOR THE IMPROVEMENT OF GEOMETRICAL TEACHING.

THE Annual Meeting of this Association was held on January 14th, at University College, Gower Street. The first part of the morning sitting was devoted to business arrangements and the election of officers, the chair being occupied by the retiring President, Dr. Taylor, the Master of St. John's College, Cambridge. The second part was taken up with a most interesting and instructive demonstration by Mrs. Bryant and a class of her pupils, the newly-elected President, Dr. Wormell, taking the chair. Mrs. Bryant showed, in a clear and striking way, how to carry a class over what was to them an original research, by means of the following problems, to be solved within Euclid's third book:—

1. If A, B, C, D are four points so situated that the angles ABD and ACD are equal, the four points are cyclic.
2. If triangles ABC and $A'B'C'$ are equiangular, the rectangle $AC \cdot B'C'$ is equal to the rectangle $A'C' \cdot BC$.
3. In any quadrilateral inscribed in a circle the sum of the rectangles contained by the opposite sides is equal to the rectangle contained by the diagonals.

An animated discussion followed the model lesson.

The afternoon's sitting was opened by the following address of the President, Dr. Wormell:—

Your Committee has departed a little from precedent, but not, I think, from the spirit of the Association, in electing as President for the year one who is not a specialist in any branch of mathematics, who is not even a teacher in the higher lines of education, but is simply an ordinary schoolmaster, and teacher of the multitude.

I shall make use of the opportunity to show in what respect the hopes of such as myself, as regards this Association, differ from those of the exceptional and higher professor.

In the first place, let me ask, why was the Association more necessary for the improvement of geometrical teaching than for that of other branches of mathematics? The answer consists of two parts. The first part can be given in the words of Professor Clifford:—“The book of the *Elements of Geometry* has been for twenty centuries at once the inspiration and aspiration of scientific thought—its encouragement and guide. Encouragement, because the knowledge it contained was really known and could be relied on, and, moreover, was growing in extent and application. The guide, for the aim of every scientific student of every subject was to bring his knowledge of that subject into a form as perfect as that which Geometry had attained. ‘Far up on the great mountain of Truth, which all the sciences hope to scale, the foremost of the sacred sisterhood was seen beckoning to the rest to follow her.’” But the other part of the answer is that, at the date of the inauguration of this Association, elementary geometry was not growing or advancing, it was not taught—Euclid was not taught. The idolatry for a certain text had made the very form of that text so fixed and inelastic that it had almost ceased to be a mental discipline. The foremost of the sacred sisterhood had become such a weird and monumental kind of fixture, and was dressed in such an antiquated form, that she was positively repulsive to the young, whom especially she had been set to beckon upwards.

After about ten years of work, I find the president reporting progress as follows:—“Elementary geometry is no longer regarded as a long-since-perfected branch of knowledge; it is no longer classed with the seven orders of architecture, for instance, that cannot be touched without being spoilt. On the contrary, it is generally recognised now that the elements of geometry, so far as principles and methods of exposition are concerned, constitute not a dead, but a living science, susceptible still of being improved, and still capable of furnishing new matter for thought to both teacher and student.”

This result was worth achieving—was worth the creation of an Association to achieve. It was extended, moreover, by the syllabus of elementary geometry, which was drawn up after much deliberation. We proposed certain limitations in our self-imposed task, you will remember. We resolved not to break too suddenly from old associations, but, at the same time, to introduce greater freedom of treatment, to prepare the way for recent extensions and improvements, and to propose for general adoption a certain order of sequence in the fundamental propositions of Geometry, so that examiners might examine, without prejudice to examinees, more independently of the particular text-books that had been employed, and of the individual teachers under whom pupils might have studied.

Some have wished, perhaps, that the syllabus should have been universally adopted. I have no desire that one form of idolatry should be replaced by another, or one state of slavery by another; and am content to know that the syllabus has emancipated many, and has had an evident and great influence, not only on the teaching of elementary geometry, but on the treatment of Euclid in the many excellent text-books which have appeared of late years.

It has often struck me that, even within our own Association, the needs of the multitude, and the theory of education, are not sufficiently considered.

What are the claims of a teacher of the multitude to consideration? Look at the cause of the great development in the applications of electricity of recent years. All the facts and principles had been discovered by the beginning of the century, but they remained of little use until the multitude, by the spread of science-teaching, got hold of them. Then came the boom. Similarly, if the higher part of mathematical theory is to find practical applications, it must be through the multitude. To the discoverers it may appear high above mundane things. When the sturdy sons of toil comprehend it, they will lift up mundane things to it. As the late Mr. W. Spottiswoode observed, at the Dublin meeting of the British Association, its “utility often crops up at unexpected points. Witness the aids to classification of physical quantities furnished by the ideas involved in the calculus of quaternions; or the advantages which have accrued to physical astronomy from Lagrange's equations, and from Hamilton's principle of varying action; on the value of theorems on integration for the theories of electricity and magnetism. The utility of such researches can in no case be discounted, or even imagined, beforehand. Who, for instance, would have supposed that Abelian functions and hyperelliptic transcendents

would have told us anything about the properties of curves; or that the calculus of operations would have helped us in any way towards the figure of the Earth?"

The utility appears as soon as the multitude has access to the facts. Hence we deserve consideration. There are two things we ask: (1) We appeal to the pioneers in discovery not to express the truths of the science in language peculiar to themselves—not to cast their conclusions in such a form as tends to mystify the uninitiated. This Association may do much to prevent this by encouraging order, consistency, and system in the terminology of the science. That much may be done in this direction is shown by Mr. Hayward's classification of mathematics, and his recently published work on Coplanar Vectors. This phrase itself is immensely suggestive. Then the phrase "vector aggregation" seems to bid us choose between "aggregation" and "composition"; both are not needed, and one is far more fruitful than the other; and in many other cases there are alternatives suggested in points which concern the multitude.

Shall we say, for instance, that vectors are *magnitudes* which have quantity and direction, or that they are *quantities* which have magnitude and direction. Both cannot be right, for we cannot have $A = B + C$, and also $B = A + C$, unless C is nothing at all. If the former be the better, as Mr. Hayward puts it, then we should be consistent and use "quantity" instead of "magnitude" in the statement of the parallelogram of forces and similar propositions.

But our plea is for more than consistency. We desire that the multitude shall have the same language as the few.

Professor Earle, of Oxford, has recently published a work, entitled "English Prose." In it he shows that all that is most firm, vigorous, and valuable in the present English prose is derived from the language of the people. "One thing," says Professor Earle, "this new movement has effected which cannot too highly be prized. It has kept the diction of the highest culture in touch with the speech of the people, and has made the English language one for all sorts and conditions of men. The divorce between the speech of the upper and lower classes, which was the rule in the ancient world, which threatened English in the first half of the seventeenth century, has been effectually warded off." We would have this apply to the language of mathematics as truly as it applies to the language of current literature.

A glossary, showing the use, scope, and connexion of terms, would restrain the leaders and give confidence to the followers.

(2) We ask the builders of the science to remember that we have to work according to an accepted and definite theory. We have to proceed as nature does, and have respect for the laws of the pupils' being. We find that words, without ideas, are not knowledge; that ideas which are not incorporated in the learner's mind are not knowledge. The first condition for this incorporation of ideas is that the pupil shall himself respond to the stimulants put before him. That his attention may be aroused, he must be interested; we cannot force matters. We must not arbitrarily settle things as an inexperienced examiner might wish, and prevent branches overlapping. If we have taught arithmetic, and are about to teach algebra, we first deal with border problems, which may be awkwardly solved by arithmetical methods, and then expose the neater methods. Similarly, clumsy expressions for the trigonometrical ratios may be used with advantage preparatory to commencing trigonometry, and problems best dealt with by the calculus should be first solved without the calculus; then, as soon as the new weapons are shown him, the student will recognise their power, and see a new world open to him. Now, because we adopt this method of exciting interest and of preventing the beginnings from appearing difficult and repulsive, the lofty professor calls us "calculus dodgers," and names of that kind. We are not artful dodgers of any kind. We do not wish to dodge anything, but to make the new acquisitions natural, easy, and complete. To bring about a better understanding between the high and the low, the few and the many, is, in my opinion, the mission of this Association. There is still work for it to do; it has to make the extremes meet. It has to bring the higher knowledge to the multitude. It has to induce the mathematicians to make their work available for the use of the multitude, and to induce both them and the examiners to recognise the needs of the multitude. When this work is done, no University or examining body will hold such an attitude, with regard to the geometry for beginners, as is at present held by the University of Oxford. In conclusion, allow me to express the hope that the Association will gather new energy in the present year.

Mr. Heppel read a paper on "The Use of History in the Teaching of Mathematics." He showed not only how the interest of the pupils may be aroused, but also how the theories and methods may be elucidated by means of the history of the subject.

Mr. Marshall, of Harrow, then read a paper on "The Teaching of Arithmetic," which was received with much favour. Both papers gave rise to lengthened discussions, which were very far from being dull, and which were often enlivened by anecdote and interesting personal reminiscences.

Those who wish for information respecting the Association, are referred to the Secretaries, Mr. E. M. Langley, M.A., 16 Adelaide Square, Bedford, and Mr. C. Pendlebury, M.A., 4 Glazbury Road, West Kensington.

Mr. Langley specially recommends the Association to the attention of teachers in London and its neighbourhood, and points out that the personal interchange of ideas at the meetings is much more valuable than correspondence and the reading of printed papers.

PEDAGOGIC RESEARCH IN THE UNITED STATES.

IN England we are slowly coming to accept the opinion, which this journal has for many years, through evil and through good report, maintained, that education is a science which needs patient and earnest study, and an art which needs to be carefully acquired. Meanwhile, a large portion of the English-speaking races have not waited for our lead, but have formed their own opinion, and have given to pedagogics an honourable place among University studies—following the guidance of Germany, which in this, as in other sciences, has been the teacher of American teachers.

With an enterprise and enthusiasm characteristic of the Anglo-Saxon all the world over, our cousins in the States have not been content simply to adopt German methods, but they are ambitious to surpass them, and if devotion to their science, coupled with ample material means, can give them the first place, they will undoubtedly achieve their aim.

Evidence of this energy has been supplied to us for some years by the notices of pedagogic works written in the States, which have appeared in this journal, but these publications give but a faint idea of the extent to which education is being studied.

Not only have most of the Universities established chairs of pedagogics, but some of them give the subject a place of special prominence, and in Clark University, Massachusetts, which has been recently founded, entirely for the purpose of research, we find its President, Dr. Stanley Hall, establishing a "seminary," with the express object of doing research work in pedagogics, such as, even in Germany, has not yet been attempted. Dr. Hall has gathered round him a number of graduates who study with him, in seminar fashion, the science of education, and he now produces, three times a year, as a result of their work, the *Pedagogical Seminary*. The first volume, and part of the second, which lie before us, are, undoubtedly, works of singular merit, and maintain to the full the pretensions which the editor makes in the opening pages. The *Seminary* is not intended for the schoolmaster in practice, who, as a rule, cannot find leisure for pedagogic study, but (1) for prominent laymen who take an intelligent interest in education; (2) for administrators, such as headmasters and college presidents; (3) professors of pedagogy and normal school instructors. We may add that the price places it beyond the reach of most English teachers, but it ought to find a settled home in all professional libraries.

Each number of this publication devotes itself, in the main, to one department of inquiry, corresponding, it would appear, to the work of each term undertaken by Dr. Hall's seminar; thus the second number (June, 1891) deals exclusively with the study of childhood; and contains most valuable essays on the contents of children's minds on entering school, on the study of adolescence, &c. The essay by Dr. Hall, on moral and religious training, is one of the wisest pronouncements on this difficult subject which it has been our fortune to meet with. After the essays follow notes on the literature relating to the inquiry, with digests of many pamphlets and other recent publications, from every civilized country. Later numbers deal, in the same way, with school hygiene, with higher education, and so forth.

Hitherto, we have been content to regard Germany as the only country where pedagogics was made a serious pursuit, but a publication such as this makes it very clear that America will soon become a formidable rival to the older country.

COUNTY COUNCILS AND SECONDARY EDUCATION.

ORGANIZATION for Secondary Education is now the chief topic of the day among educationists, *vice* technical instruction, of which most people have heard almost enough during the last few years.

No one disputes that the organization of secondary education is in itself desirable; but the Acland-Roscoe Bill excites more opposition than did the Bills for Promoting Technical Instruction. The opposition to the passing of those Acts, and to the policy of local authorities in giving effect to their provisions, was an opposition from without—that is to say, from opponents of education, or, at least from those who think enough public money is already spent on education. The Secondary Education Bill, on the other hand, finds its principal opponents among educationists. It does not seem to have raised much external opposition. The reason for this is evident: the Bill is permissive merely, and its adoption will, in the majority of the counties, simply mean that a portion of the Beer and Spirit Fund will be given to secondary schools instead of to technical classes. The power to levy a halfpenny rate is not in the least likely to be exercised in the immediate future, except in some of the great industrial centres, where public opinion tolerates, and even encourages, increased expenditure on education.

The majority of the County Councils are not spending as much on technical instruction as they annually receive from the Beer and Spirit Fund, and most of them—a fact which often escapes notice—are a whole year's income in hand, besides having an unexpended balance from last year's money. There is therefore a considerable reserve fund, of about three-quarters of a million, and at present an annual surplus which, as far as the ratepayers are concerned, may as well go to secondary as to technical instruction.

Were the Secondary Education Bill to be passed at once, its adoption by County Councils would secure a share, at least, of these balances for secondary education; whereas already in one or two cases such balances have been applied to general county purposes, owing to the fact that the Educational Committee of the County Council has not seen its way to immediately utilize the whole of the fund under the restrictions of the existing legislation.

If the Secondary Education Bill is not passed *soon*, the County Council technical classes will so increase in number that, taking into account how little contribution the Councils generally demand towards expenses, there will be no surplus available for secondary education, and the Act will be a dead letter in most counties, just as the Technical Instruction Act of 1889 remained a dead letter in the counties, until subventions were received from the Extra Beer and Spirit Duties.

True, some County Councils do already assist endowed secondary schools, but under present legislation they can only give such assistance in respect of the teaching of technical subjects, and most schoolmasters do not wish to see one part of the school-work developed out of all proportion to the rest. But, while on the one hand the present state of legislation does not altogether satisfy the masters of endowed secondary schools, the proposed Acland-Roscoe Bill excites the strongest resentment on the part of a large proportion of the masters of private secondary schools.

By new and, perhaps, large additions to the endowments of schools which are already endowed, it is feared that many private schools, which have hitherto held their own, will no longer be able to maintain their position. Further, the foundation of free county scholarships at the endowed secondary schools, open, as will often be the case, only to scholars from the elementary schools, will more and more tend to induce parents of the middle-class to send their children to the elementary schools, whence the cleverer of them will proceed to the endowed schools. It is not the object of the present article to dwell at length upon the disadvantages to which the provisions of the Acland-Roscoe Bill would subject the private schoolmaster, but rather to draw the attention of private schoolmasters to the attitude of the County Councils on these matters, and to point out that, by judicious "adaptation to environment," private schoolmasters would be able, in not a few cases, to profit by the funds which the provisions of the Bill appear to guard so jealously for endowed institutions.

It must be borne in mind that in the case of a permissive Act, such as this proposed Secondary Education Act, the spirit in which the local authorities take the matter up is quite as important as the tenor of the Act itself. The present writer, having personally assisted at every educational debate which has been held by the Council of a typical southern county and by its committees, and having also somewhat exceptional facilities for becoming acquainted with the work which is going on in the other counties, may, perhaps, be able to form a fairly accurate judgment as to the position which many County Councils will take up in the matter.

In the first place, the county governing bodies are by no means *doctrinaire* in educational questions. In so far, therefore, as the Secondary Education Bill embodies *doctrinaire* views, it will meet with less approval from the Councils. Again, the Councils, as a rule, have a wholesome dread of interfering with vested interests, and the councillor of a district is generally ready enough to act as spokesman on behalf of any person in his division who thinks himself likely to suffer by some proposed action of the Council. No rôle commends the councillor to his constituents so well as that of the champion of local interests, and a protest from the councillor of the district is seldom without effect upon the Council. A private schoolmaster of good position, especially if his pupils come largely

from the neighbourhood, will always be able to ensure that his interests shall be properly represented at the Council meetings. More than this, it appears to us that the interests of the County Council and of the private schoolmaster will not infrequently be identical. The domain of secondary education has long been shared between the schools under schemes of the Charity Commissioners and private venture schools.

In many districts of the country there is no large educational endowment, and wherever educational endowments are absent, the private schoolmaster has been the organizer of secondary education. It is quite natural, therefore, that he should resent legislation which proposes to ignore the work which he has done, and refuses to recognise the position he has gained for himself. But if we consider the position in which the County Councils will be when they have adopted the Act, we shall see that the private schoolmaster will, in many cases, occupy rather a strong position.

Throughout a certain district there is, let us suppose, no efficient secondary school except a certain private school. The County Council desires to provide a free secondary education for scholars from the elementary schools of the district; it desires to make more ample provision than the school affords for the teaching of certain subjects, notably the scientific; and it also aims at reducing the cost of secondary education, in order that a poorer class of parents may be able to give their children educational advantages which they cannot now obtain. There are two alternatives open to the Council. First, a new school may be founded and endowed. This what the private schoolmaster fears; but this method has many objections, quite as valid from the Council's point of view as from that of the private schoolmaster. The councillors will feel that they are interfering with vested interests; that they are going to expense in the matter of buildings and so forth, instead of utilizing existing facilities, and, last but not least, that, there is always a possibility, after they have tried to take Naboth's vineyard, that Naboth may prove himself the better man, and that for some reason or other, such for instance as bad fortune in selecting the headmaster, the parents may prefer to send their sons to the private school.

Every one of the above objections would have great weight with a County Council.

The other alternative open to the Council would be to place the secondary teaching for the district in the hands of the successful private schoolmaster. An arrangement might be made whereby the Council should lease the school premises, and would receive the fees of the scholars. The master would receive rent for his premises (or would no longer pay rent for them, as the case might be), and would be remunerated, say, by a fixed stipend, *plus* a capitation grant for every boy above a certain minimum number. Further, the school would be endowed sufficiently to support free scholars, and to provide adequate outfit of teaching appliances, apparatus, books of reference, and so forth, and, perhaps, to lower somewhat the scale of fees. Such an arrangement, leaving, as it would, the prospect of an income rising in proportion as the school is successful, would be welcomed by many a private schoolmaster as a relief from the strain which the speculative nature of his profession entails. Such a public recognition of the value of his work might be some compensation for having to work, like the headmaster of an endowed school, under a board of governors, and we question if the greater freedom in dealing with the caprices of parents would not of itself bring almost sufficient consolation.

The view, then, which we wish to urge at the present juncture, is that the private schoolmaster should think twice before he throws obstacles in the way of the passing of a measure which, if carried *now*, before the Beer and Spirit Grant is all appropriated to other purposes, would set free, for purposes of secondary education, very considerable sums of money, of which, with a little judicious management, the private schoolmaster may obtain a very fair share.

V.

THE ASSOCIATION OF PRIVATE SCHOOLMASTERS.

THE annual meeting of the Private Schools Association was held on January 13th in the Lecture Hall of the College of Preceptors, Bloomsbury Square, by kind permission of the Council. There was a large attendance of members, both ladies and gentlemen. Mr. J. Vine Milne, of Henley House School, St. John's Wood, was in the chair.

After the discussion and adoption of the report, and transaction of other business, the Rev. Dr. WALKER, of the Grange, Thorpe Arch, Boston Spa, president-elect for 1893, delivered his inaugural address, in the course of which he insisted upon the need of combination among the proprietors of private schools. The private schools of the country would easily establish their position and vindicate their usefulness before a Royal Commission. To use the language of their critics, they were twenty thousand adventurers, with forty thousand assistant adventurers. If there was no real *raison d'être* for the private schoolmaster, there would not be so many of them. Many of them had been headmasters of so-called public schools, and still more had been assistant-masters in the greatest schools of the country. Were they to be reproached for having thrown aside the crutches of endowment and fallen back upon their own resources? The term "private schoolmaster," so often used as a term of opprobrium, was as absurd as the term "private solicitor" or "private doctor" would be. It had been estimated that eight out of nine of the children in schools above the primary standard were trained

in so-called "private schools." They had six hundred thousand children under their care. What was Arnold at Laleham but a private schoolmaster, and did he not carry on his great boarding-house at Rugby for his own advantage? If it were not for them the great public schools would have little to boast of save athletics; and the truth was that the public schools bought or bribed—he might say "crimped"—the carefully trained intelligences turned out by these "adventurers." The modern system had made the poor man's child the child of the State, and the man himself a pauper. If such a measure as had been drafted last session by Mr. Acland were passed, it would still remain open for the County Councils to accept or reject it, and to decide whether or not the country would allow the de-Christianization of its rising generation. Even democratic America was reverting to private and voluntary schools. The Bill to which he had referred was unsatisfactory, mistaken, and unfair, and ignored the rights of highly-educated men and women who had devoted years of labour and spent many thousands of capital in their enterprises.

A vote of thanks was cordially passed to the president for his admirable address.

Mr. VINE MILNE, the retiring president, proposed the first resolution:—"That a Teachers' Registration Bill should precede any attempt to organize secondary education." The Registration Act was first needed, because without it local requirements would not be ascertainable. The best body to collect the information would be the council to be established under the Bill.

Mr. J. S. THORNTON, in seconding the resolution, said that every year it was becoming clearer that the teachers' profession needed a special technical preparation, like the lawyer's or the doctor's, and that therefore this matter of registration was something to be controlled in large measure by the teachers themselves, and not arranged for them by an outside authority.

Mr. W. BROWN moved the second resolution:—"That when secondary schools are being established under any Act dealing with secondary education, the interests and property of efficient private teachers should be safeguarded." They should resist the establishment of the local committees proposed by the Bill. They would not submit to the dictation of the local butchers and bakers; they should oppose the underselling, for the benefit of people well able to pay, of education, by means of State subventions; and they should demand a fair field and no favour. It would be monstrous that the pupils of private teachers should not be allowed to compete for the scholarships and endowments to be founded out of public funds. It was proposed that compensation should be given to the publicans; but no one proposed to compensate the schoolmasters, whose large outlay on buildings it was proposed to confiscate. In one respect the private schools were ahead of the public schools. The moral training in the private schools was, he claimed, better than in their public rivals, and more attention was paid to the slow-witted and ordinary boy. He was glad to see that there was a reaction against the principles laid down in Mr. Acland's Bill of last session.

Mr. WADE seconded the resolution.

Mr. MILNE, in supporting the resolution, read an extract from a letter which had been received by one of their members from Mr. Walter Long, M.P., who said, in reference to Mr. Acland's Bill:—"It seems to me that such an amendment as you suggest should certainly be inserted in any Bill for Secondary Education, and that the work and property of private teachers, who have hitherto borne the heat and burden of the work, should certainly be safeguarded."

Mr. THORNTON pointed to Denmark as a country in which nearly all secondary education was carried on by private teachers, who, however, were in some cases helped by the State, and all of whom were recognised. Denmark was, he believed, the only country in Europe in which there were absolutely no illiterates.

Mr. A. M. INGLIS, of Maidenhead, moved that no local authority can be considered satisfactory unless teachers and educational bodies are largely represented therein. Teachers were too frequently shy of public duties, but they should rise to the necessities of the position.

The Rev. J. O. BEVAN reminded the meeting of the powers of County Councils in relation to technical education.

Mr. JOHN BAYLEY, of Wellington, Salop, said that the grants made for technical education under the Technical Instruction Act were not available for private schools. Happily, as the private schools were in his part of the world the most efficient, they had contrived to drive a coach and six through the Act. In Shropshire scholarships were given by the County Council for science and art, and students from all schools in the county might compete. He would oppose all legislation, from whatever party it proceeded, which should confiscate the property or interfere with the work of the private teachers throughout the country.

Mr. J. STEWART, of Hastings, moved that any scholarships and exhibitions granted out of public money ought to be tenable by pupils attending efficient private schools; and the Rev. J. B. BLOMFIELD, of Catford, moved, and the Rev. Dr. JAMES seconded, the following resolution:—"A deputation shall be appointed from this Association, which shall consist of six members (with power to add to their number), who shall be empowered to wait upon the Minister in charge of any Bill dealing with secondary education."

All the resolutions were unanimously carried.

Many of the members dined together in the evening at the Holborn Restaurant.

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THE EDUCATIONAL TIMES.

LONDON, FEBRUARY 1, 1893.

THIS is the season of scholastic conferences, but when we compare one of these seasons with others, it must be admitted that the past month is one to be remembered.

Rarely have the subjects of discussion been more important, the earnestness with which they have been debated keener, or the tone which pervaded the proceedings healthier. It seems as if we have reached the dawn of a new awakening in regard to secondary education. In the days just before Christmas, the Headmasters' Conference held its sittings, but the exigencies of the season prevented us from reporting this Conference last month. On January 11th the Headmasters' Association held its annual meeting at Clothworkers' Hall. The two associations—the higher but smaller, and the lower but larger—had certain subjects in common. The Archbishop of Canterbury is responsible for the discussion, by both bodies, of the question of religious teaching. Dr. Baker, as President of the Conference, introduced the discussion, and defined the subject as that of "Higher Religious Education, more especially in relation to the two resolutions passed at the 'Conference on Religious Teaching in Higher Schools,' held at Sion College, on June 15th, 1892, under the presidency of His Grace the Archbishop of Canterbury." Whether such a discussion was needed or not, whether it was expedient or not at the present moment, the meeting could not help entering on it, as Dr. Baker said, "out of respect for the high authority under whose sanction and direction it was brought forward." Even Mr. Rutt, whose proposals, perhaps, approached as nearly as any to the wishes of the Sion College Conference, admitted that the question had been "forced on schoolmasters by the head of the Church." The associations were, therefore, only responsible for the manner in which the debates were carried on, and for the conclusions that were arrived at. There are few thoughtful men who will find fault with either. This we quite believe that Mr. Eve, in his letter to the *Times*, paints an accurate picture when he says: "The speeches most cordially received were those which laid down two principles; first, that our public schools are not essentially Church of England institutions, and, next, that a schoolmaster is bound to take for his guide, in dealing with theological questions, the natural instincts of a high-minded gentleman to whom parents of the most various opinions have intrusted their children." It was admitted that the questions discussed trenched on delicate ground, and required very delicate handling, but there was no hesitation on the part of the

leading masters to state, in very definite terms, the bearings of the questions. It is with much satisfaction we find the headmasters of both associations frankly and courageously admitting that they had equal duties in relation to all their scholars, and, whether they themselves were members of the Church of England or not, it was their duty to deal impartially with all the members of their schools. This, in effect, was dwelt on by Dr. Baker, Mr. Welldon, and others.

Mr. Welldon thought that the two resolutions emanating from the Sion House Conference opened up a somewhat serious prospect for schoolmasters and headmasters, and in a few sentences he submitted to the Conference, "not the whole truth, doubtless, on the question, but certain facts and considerations which ought to be borne in mind." Looking at the first of the two resolutions, he observed that it referred simply and solely to members of the Church of England. It took no account whatever of boys who are not members of the Church of England. Mr. Welldon declared that he could not help "looking with some anxiety and suspicion upon a procedure which would make a marked distinction between boys who are members of the Church of England and other boys. The principle upon which he would venture to take his stand was that as public schoolmasters we should endeavour not to magnify, but, as far as we can conscientiously, to minimise the differences between the Church of England and other Christian bodies. He took up that position because he believed that the public schools are the property, not of the Church, but of the nation. The conclusion to which he came was that upon the whole it is wise to adhere to the policy which has been pursued with conspicuous success for a long time in the public schools, giving only such teaching as can be given without offence and without discrimination between boy and boy. Whatever might be the interests of the Church of England he was sure it would not be to the interest of the nation if we took any step in this direction which would involve dividing the boys conspicuously and notoriously into those who are members of the Church of England and those who are not." The Rev. A. R. Vardy expressed the same view, and added that, so far from feeling the scope of his teaching restricted unduly by the clauses of the scheme of his school for protecting the consciences of boys whose parents were not members of the Church of England, he was staggered at the immensity of the field which still remained open, so much was there that all in common ought to know.

No resolution whatever was proposed on the subject in the upper Conference, but in the Headmasters' Association Mr. Ruttly proposed—

"That the Headmasters' Association, while feeling that the subject is surrounded by grave difficulties, sympathises with the Resolution passed at the Conference at Sion College, and suggests, as a possible solution of those difficulties, that in schools where the scheme allows it, the religious education should be on the lines laid down by the University of Cambridge in the Local Examinations previous to 1880."

Various amendments were proposed, seconded, and negatived, as was also Mr. Ruttly's resolution, and at last the meeting almost unanimously resolved to proceed to the next question. Hence we may take it that, in the opinion of both sections of Headmasters, it is not necessary at the present moment to disturb in any way the practice of the schools as regards religious teaching.

The meeting then proceeded to discuss the Acland-Rosecoe

Bill for Secondary Education. This was somewhat out of the sphere of the higher Conference, and, excepting in an incidental reference by Mr. Eve, was not mentioned, but the meeting of the Headmasters' Association passed the following resolution:—

"That the Headmasters' Association regards with favour the Acland-Rosecoe Secondary Education Bill of 1892, as an attempt to solve the problem of secondary education, but considers that among other details the proposals affecting—

- (i.) The formation of Secondary Education Committee,
- (ii.) The government of any schools established under the Act,

(iii.) The position of private schools, require further discussion and amendment, and refers the whole subject to a sub-committee to report to the next meeting of the Association."

The meeting consisted of masters of endowed schools only, and it might have been excused if it had omitted the third point from consideration. Nevertheless it is highly creditable to the Association that it could take such a breadth of view as to recognise what is justly due to private schoolmasters, and to make common cause with their unendowed brethren. The vigour of this young Association was attested by the fact that more than a hundred headmasters were present, and that the Minister of Education thought it not *infra dignitatem* to do as the French Minister of Public Instruction always does in similar circumstances, and come down to address them. Under the guidance of the able president, Dr. Poole, and the energetic secretary, Dr. Scott, this Association of Masters will soon become one of the most important above that of the elementary teachers.

THE County Councils were, by a political accident, in 1890 entrusted with large sums of money, derived from the Beer and Spirit Duties, which they were empowered to expend in the advancement of technical education. Many of those bodies spent the whole of such funds in the way intended by the Legislature, and all others, with the exception of two Councils—London and Middlesex—spent some considerable portion of the duties in the organization and maintenance of schemes of technical instruction within their respective jurisdictions. London and the metropolitan county gained the bad pre-eminence of devoting their shares of these funds to the relief of the rates. We are glad to know that a higher estimate of their duties is likely to prevail in the future. The London County Council appointed a committee some time ago to inquire into the needs of London in respect to technical education, the existing provision for such education, and the best means to be taken by the Council, under the powers conferred by the Technical Instruction Acts, 1859 and 1891, and the Local Taxation Act, 1890, for improving that provision. This was a most proper and needful inquiry to make, and our only complaint is that it was entered on tardily, if not reluctantly. However, the inquiry has now been made; and the special committee charged with making it has just issued a valuable and voluminous report, extending to nearly two hundred pages. The committee, having to deal practically with technical education, naturally at the outset seeks to differentiate this education from the training of the workshop on the one hand and general education on the other. That differentiation the committee evidently found no light and easy task. "If we examine," says the report, "the list of subjects included in the definition clause of the Act," in respect to technical instruction, "and add to it the recently published lists of extra subjects authorized by the

Science and Art Department, on application from local authorities, we see that almost all subjects of general instruction in schools, with the exception of Classics and Literature, are included in its scope"—that is, of technical education. For the present, however, the committee recommends that the County Council shall confine its attention to promoting the teaching of subjects having "an unmistakeably industrial bearing." It is open to the Council to carry out this recommendation in one of three ways:—(a) It may provide technical instruction directly, by founding schools, establishing classes, and engaging teachers for them; (b) it may make grants to governing bodies and classes providing technical education, under certain conditions; (c) or it may establish scholarships and exhibitions, or pay the fees of scholars and make grants to meritorious students to enable them to obtain technical education at some school or class. There are certain restrictions imposed on the Council's powers in the allotment of funds available for the promotion of technical education, which it may be worth noticing. It must not devote any portion of them to the instruction of children who are still in the standards of an elementary school. With respect to grants to existing institutions, due regard must be paid to the nature and amount of efficient education provided; and, further, the Council must be represented on the governing bodies of schools or classes receiving grants, in such proportion as will as nearly as may be correspond to the proportion which the grant given bears to the total income, other than from a local rate or money provided by Parliament. Another important restriction upon grants in aid is that they cannot be made to schools conducted for private profit. This restriction, however, does not, it would seem, extend to scholars from private-profit schools, since the restriction operates against the school, and not against the scholar.

A suggestion is made in the report which, if acted upon, will bring to the aid of the Council most valuable assistance in administering that portion of the Beer and Spirit Duties that the Council is recommended to spend in the promotion of technical education. It is suggested that the administration of such fund should be entrusted to a committee including representatives of the School Board, City and Guilds Institutes, Trustees of the City Parochial Charities, The Head Masters' Association, the National Union of Teachers, and of the London Trades' Council. Such a committee, if well chosen, would bring to the discharge of their duties the best available knowledge of the time on the matter in hand, and we might look with confidence for the best results from their labour. The most important recommendation, however, of the report, is that for the first year a sum not exceeding £80,000 should be devoted to grants to various institutions, the mode of distribution being: Polytechnic Institutes, £16,000; secondary and higher grade education in day schools for ex-elementary scholars, £22,000; higher institutions, £3,800; art teaching, £10,000; science teaching, £6,000; scholarships, £8,000; technology and manual instruction, £5,000; household economy, £3,200; commercial subjects, £2,000; and technical museums, £4,000. The conditions proposed to be attached to these grants are very reasonable, viz., for the Polytechnics, representation of the Council on the governing body; audit of accounts; all technical classes to be open at all times to the Council's representatives; an annual written report showing the work

of the institute, and the mode of expenditure of the grant, to be presented to the Council; so soon and so far as possible junior evening classes to be established for boys and girls under sixteen; and that no extra annual grants made or voted by the governing body be withdrawn or curtailed as a consequence of the Council's grants. The first four of these conditions—representation, audit, inspection, and annual report—apply to all the other proposed grants. The recommendations under the head of higher education include grants to University College, King's College, and Bedford College for Women, and the University Extension Society. In addition to the sums allotted to these colleges, two further important proposals are made, viz., to set aside a sum of £10,000 as an endowment for the proposed Teaching University of London, provided the University receives a charter within two years, and the second is that a municipal School of Architecture be created for the metropolis.

Another important proposal of the Committee is to spend a sum of £8,000 on scholarships thus: A thousand "minor" scholarships of £5 each, to enable pupils who have passed the standards in an elementary school to continue for a year or two at a higher-grade elementary school; one hundred and fifty "major" scholarships of £20 each; and ten special higher scholarships of £60, to enable boys and girls of exceptional ability to proceed from a secondary school to a higher technical institution or University college. Such are the main recommendations of the report for immediate application; but the opinion is strongly expressed that the aiding and developing of existing institutions will not adequately discharge the Council's obligations in respect to the educational wants of London. In the view of the Committee, the Council should ultimately supply schools and institutes on a municipal basis. Not only, it is urged, will it be impossible otherwise to cover the ground, but the establishment and maintenance of a limited number of first-rate municipal institutions might do more than any other measure to keep up a high standard of teaching throughout London.

The inquiry of which the report is the outcome has established the fact that London is not only behind the Continental capitals in provision for technical education, but also behind many of our own provincial towns. The Council will entitle itself to the gratitude of all good citizens if it succeeds in wiping out from this great metropolis the discredit which attaches to such a condition of things.

THE University question now agitating Italy is not without its lessons for us. An ultra-Liberal ministry is now in power in that kingdom, and the Minister of Public Instruction, in the interests of progress and sound learning, proposes to suppress a large number of superfluous Italian Universities. This proposal has raised all the vested interests in the peninsula and neighbouring islands in angry protest against such a "retrograde" scheme; and so strong is provincialism in United Italy that Signor Martini's persistence in his enlightened educational policy may lead to the overthrow of the Giolitti administration. The probable upshot of the agitation, however, will be the shelving of the Minister's scheme. The necessity for extinguishing ten or twelve of Italy's twenty-one Universities, arises partly from their unequal distribution, but mainly from the condition of more or less inefficiency into which the greater number have

fallen through lack of resources, and the consequent lowering of the value of degrees and diplomas, which are obtainable for a very small outlay indeed of money and talent. The burdensome legacy of twenty-one Universities comes from the time when Italy was a mere geographical term, including a congeries of kingdoms, arch-duchies, duchies, and principalities, with their respective capitals of more or less importance. Their separate existence after political unification, tended to separatism and provincialism in the political domain, and to a local colouring and parochialism so fatal to the best tendencies of academic life.

A few statistics will show how desirable Signor Martini's consolidating scheme is. Piedmont, with a population of three millions, has one University, that of Turin. The University of Genoa supplies the higher educational needs of the million inhabitants of Liguria. Lombardy, with a population of four millions, has its University of Pavia; Venetia, with three millions, the famous old University of Padua. The territory of the former Neapolitan kingdom, with a population of eight millions, has one University; that of Naples, and Latium, with a million inhabitants, has the University of Rome. According to our ideas, these six Universities ought not only to provide for the higher education of the twenty millions of Italians in the provinces just named, forming two-thirds of the population of the kingdom, but for the whole of the inhabitants of the peninsula. The remaining third of the population has, however, no fewer than fifteen Universities to supply its higher educational wants. It is true that five of these are located in the adjacent islands. Sicily, noted for its volcano and its banditti, with three millions of inhabitants, boasts three Universities, those of Palermo, Catania, and Messina; whilst the Island of Sardinia, noted for nothing in particular, with about six hundred thousand inhabitants, supports two Universities, those of Sassari and Cagliari. The ten Universities still unaccounted for are all on the mainland, and are thus distributed. The Emilia, with a population of two millions-and-a-half, has four Universities, those of Parma, Modena, Bologna, and Ferrara. The Marches and Umbria, with about two millions of people, have also four Universities, Camerino, Macerata, Urbino, and Perugia. Tuscany, with two millions of inhabitants, has the two Universities of Siena and Pisa. The bare narration of these facts should convince all unbiased minds, one would suppose, of the wisdom of extinguishing the greater number of these worse than useless degree-conferring institutions.

The progress of science has not only made war costly, but it has increased the cost of the higher education. The mediæval libraries and equipments of the old Universities of Italy, however useful as aids to theological or literary studies, are not sufficient for modern University studies; they need to be supplemented by fully equipped laboratories and museums, with an augmented professoriate and tutorial staff. These necessary developments involve greater outlay than the richest of the Universities can afford; and it is needless to say that a State on the verge of bankruptcy can lend little assistance. A remedy such as Signor Martini intends to apply would undoubtedly improve the position of the Universities left standing, but we fear, in the present condition of parties in Italy, it has no chance of being tried. The counter-proposal, of the supporters of the threatened

Universities, is to reduce their number of faculties—one, for example, to be confined to teaching and conferring degrees in medicine, another in law, another in science—and another in literature. But such a scheme strikes at the root of the very idea of a University, and is besides impracticable. How is a student of medicine to prepare himself for practice in a University without a science faculty? To such a pass are Italian politicians brought by a multiplication of Universities beyond all legitimate requirements. In this country we are fortunately a long way off the plethora of Universities from which Italy suffers. But, all the same, every proposal for increasing their number in these islands should be narrowly and jealously scrutinised. Whether it be to give London two Universities, or Wales one, or the Midlands one, every such addition to their number means the lowering in the value of degrees, and the approach to the educational evils to which Italy and America are exposed.

REVIEWS, NOTICES, &c.

The Harness-Sauveur Method of Modern Language Teaching:—Causeries avec mes Elèves; La Parole Française; Sauveur and Longée's "La Grammaire des Enfants." (Boston: Karl Schoenhof; New York: F. W. Christern.)

Teachers in England are scarcely aware of the extent to which methods of modern language instruction are being revolutionized in the United States. While we, in England, are directing our attention mainly to so-called new methods which are being attempted in Germany, American teachers have struck out for themselves an entirely independent line, on principles which bear the name of "natural," from their supposed analogy with the processes by which the child learns the mother-tongue.

The books before us are the work of the most distinguished teacher on this system—Professor Sauveur, of Boston. In a pamphlet in which he expounds his plans, we are told that he does not claim to be a discoverer, like M. Gouin, but to have adapted and developed ideas which others had already put into practice.

There can be no doubt that, whether or not the Natural Method will be adopted in England, it has taken firm root in America, and, sooner or later, will claim the attention of educational leaders. There have been, and are, many charlatans in this field, and at first one is inclined to distrust any one who comes before us with a "method." But the work before us does not bear this character. It is approved by some of the most eminent professors at Harvard and elsewhere; and, in the Summer Schools of Languages, which are held for the purpose of training, some hundreds of teachers are being every year introduced to the system.

Its foundation principle can be expressed in one phrase:—*Abolish the native tongue* from your instruction in the foreign tongue. It is not a new idea, but it is usually regarded as impossible of attainment. Professor Sauveur shows us how the difficulties are to be overcome; and, to the objections of those who wish to give training to the mind by instruction in grammar, he replies by teaching the grammar, but in the foreign tongue instead of in English. "There is no good thing in the old system which it does not embrace, if brought in at the proper time; the fundamental idea being that, from the start, the language to be taught must be used as the only medium of instruction." In one detail only does Professor Sauveur depart from his principle, and in doing so he is opposed by many of his followers. He has inserted in his books appendices of exercises for translation from English into French—in response, apparently, to the demands of parents and administrative authorities, who refuse to believe in a method which teaches French apart from English.

The idea of the Natural Method is not new to English teachers, but it has as yet found very little favour, and we question whether the extraordinary distortion of it which Messrs. Gouin and Swan are now introducing, and which was reviewed in these columns six months ago, is likely to meet with success, in spite of the sensational support afforded by the *Review of Reviews*. In Edinburgh, an attempt on this plan has been made by Professor Melliet (*Le Français par le Français*: James Thin, Edinburgh), whose book is written in order to enable both teachers and pupils to make use of French itself as a medium for the study of French. Apparently Mr. Melliet is unacquainted with the work being

done in America, or he would have been able to produce a much more satisfactory class-book.

The final objection to this plan must be sought in the qualification of the teacher. Teachers who employ French or German as the medium of instruction must be able to speak these languages, just as teachers who employ a laboratory table in order to teach science must be able to conduct experiments. In the States, this difficulty is being met, more or less, by the establishment of Summer Schools of Languages; in England this ought not to be necessary, since the foreign countries are so near. Nevertheless, the fact remains that a *very* small proportion of English teachers can talk a foreign language with any approach to ease or accuracy. Until progress in this direction is attained, we cannot hope that a natural method will have a fair trial in Great Britain.

Reformed Logic. By D. B. McLachlan. (Cr. 8vo, pp. xi., 233. Sonnenschein & Co.)

The object of this treatise, we are told, is to give an intelligible account of the principal facts of mind, with a method for the right expression and criticism of reasoning. The system is based on a modification of Berkeley's philosophy; and the method of dialectic is described as entirely new. To accomplish the task which he sets before him, the author should be well informed in the results of modern psychological experiment and study. This does not appear to be the case. The whole aspect of the subject, and the method of dealing with it, have changed since Berkeley's day. The plan generally adopted at that time was to make a clever guess as to the nature and constitution of mind, and to judge of its merits by the number of phenomena it seemed to explain. Nowadays we endeavour—not without very encouraging success—to treat the subject inductively; to observe, experiment, and observe again the phenomena of mental activity and mind-growth, and to guess as little as possible. Of course, in all induction there must be some little outrunning of the evidence; but this is always checked by the necessity for verification by means of experiment. Whether we shall ever be able to follow the clue far enough to warrant us in speaking of the actual constitution of mind, may be doubtful, but at least we shall follow the clue as far as we can. From what an entirely different point of view the book before us is written, the following quotation will show:—"Substantialism has two main divisions: Ontology, which treats of the mental substance in itself, and Logic or Metaphysics, which deals with its consciousness. . . . The substantial mind consists of two principal parts: a *Self* and a *Plasma*—the *Atman* and *Akasa* of Sanscrit philosophers. Self is the seat of energy and consciousness. The Plasma is inert and unconscious; it protects the Self, and receives, communicates, and retains impressions of experience, both the external and the internal." One rubs one's eyes, and wonders.

As to the theory of reasoning or dialectic (logic in the narrower sense) which is expounded and illustrated in the middle and later chapters, we are begged to observe that it is totally different from the academic. "It does not merely state, in other words or metaphors, the doctrines laid down in works of the Aristotelian type—it declares that the theory of reasoning taught in these works is altogether false. Our argumentation is not conducted in syllogisms, either tacit or explicit." For the rest, we are bidden to bear in mind that the main dogma of substantialism is that "mind alone is conceived as having solidity and energy, material things are temporary forms of our consciousness; they have length and breadth, but no depth, and they are without energy, even passive resistance. If an object cannot be removed at pleasure, what resists us is the other mind causing that object, not the object itself." Perhaps the reader now understands something of the nature of the book—though we have our doubts. The strictly logical chapters are written with great clearness and undoubted ability. Many a good point is made, and put with decided force—especially in the criticism of the syllogism. It is a great pity that Mr. McLachlan did not find it possible to give us this part of his subject without bringing in his Berkeleyan psychology, whether modified or not. After all, logic is not necessarily a chapter in psychology.

Children's Rights: a Book of Nursery Logic. By Kate Douglas Wiggin. (Crown 8vo, pp. 235; price 3s. 6d. Gay & Bird.)—Miss Shirreff, in her all too brief introduction, is right in imagining that those who know that tenderly humorous and daintily pathetic little story, "Timothy's Guest," will be glad to have another book about children by the same author—though this time it is not a story, but a series of bright and thoughtful papers on the management and education of little children, to

write on which Mrs. Wiggin's able and generous work in Californian kindergartens has long since qualified her. The title "Nursery Logic" we confess puzzles us, in spite of the preface; but the other is plain enough. The rights of children are: to have people to love them, and to keep them safe from harm; to have people and things which they may love; to be allowed, and helped in, the free development of all their natural faculties; and to be given the power to enjoy and profit by the intellectual and æsthetic inheritance of the race. Children have the right, also, and above all, to be so treated that they may become actively moral members of society; and for this purpose especially, and for all the rest, children have the right to happiness, and with it to that busy doing which, when they are men and women, they will call "work." It is peculiarly delightful to note how, in almost every paper, the idea is quietly made manifest and convincing that work is not man's curse, but one of his greatest blessings—and one of the greatest blessings of childhood also, when properly adapted to childhood's powers, and thoughts, and feelings. Mrs. Wiggin nowhere formulates her rights of children; but we think what we have said will give a fair idea of the leading topics of the book, treated under the heads of children's plays, playthings, books, the relation of the kindergarten to social reform, its relation to the public school, and the like. We cannot resist the temptation to quote the humorous opening to the first paper, which bears the same title as the book itself. Mrs. Wiggin asks Dennis, who is cleaning her windows, what he thinks about the subject—the rights of children. "What do I think about it, mum? Why, I think we'd ought to give 'em to 'em. But, Lor', mum, if we don't, they *take* 'em, so what's the odds?" Then she seeks the opinion of the little French dressmaker who is fitting on her dress. "The rights of the child, madame?" she asked, her scissors poised in air. "Yes, the rights of the child." "Is it of the American child, madame?" "Yes," said I, nervously, "of the American child." "Mon Dieu! he has them!" Good, too, is the little boy's definition of a bat—quoted as an instance of his really having observed what he was defining: "He's a nasty little mouse, with injy-rubber wings and shoe-string tail, and bites like the devil." On the other hand, here are two examples of excellence in the way of putting an opinion. "The kindergarten should offer the child experience instead of instruction; life instead of learning; practical child-life, a miniature world, where he lives and grows, and learns and expands." And this, when warning us that manual training, if wrongly and mechanically treated, may prove a curse rather than a blessing in our schools: "To Froebel, life, action, and knowledge were the three notes of one harmonious chord; but he did not advocate manual training merely that children might be kept busy, nor even that technical skill might be acquired. The piece of finished kindergarten work is only a symbol of something more valuable which the child has acquired in doing it." We have come to the end of our space, or we should have been glad to break a lance with Mrs. Wiggin over one or two minor details. We think that her criticism of the ordinary games of children, for instance, is much too severe—at any rate, as far as English children are concerned; and here and there, when children's punishments are referred to, we are rendered uneasy by touches of that excessive sensibility which is almost as bad for children as the roughest treatment. There are many punishments far more dangerous and cruel for little children than whipping. We must, moreover, assure Miss Nora Smith—Mrs. Wiggin's sister, who contributes three papers—that she is wrong in supposing that there is *any* "absolute conviction" among teachers—and least of all among kindergarten teachers—"that natural punishment is the only one which can safely be used with children." The conviction is entirely the other way. In the region of *physical* error natural consequences, under strict and careful limitation, are of some use; but, in the region of ethical errors, and errors of feeling, they do not apply at all, or are highly dangerous; while the so-called "natural" punishments, suggested by Herbert Spencer and others, are, for the most part, highly *artificial*, and not natural at all—far more artificial than the whipping of a little boy for hurting his sister. All of which tends to show that the male mind and male nerves may not, after all, be so useless in education as Mrs. Wiggin suggests—evidently out of pure mischief. But the last word must not be one of blame, or difference of opinion. We thank Mrs. Wiggin most heartily for her little book, which we have thoroughly enjoyed, and from which we have got not a little profit.

A Method of English for Secondary Schools. Part I. Grammar chiefly. By James Gow, M.A., Litt.D. (Small cr. 8vo, pp. xii.,

178, price 2s. Macmillan.)—Though Mr. Gow on his title-page tells us that his little book is “grammar chiefly,” he states in his preface that it does not profess to be an English Grammar. This is as puzzling as the White Knight’s name for his song. It does not *profess* to be an English Grammar, but it *really is* grammar chiefly. We suppose Mr. Gow wishes to mark the distinction between a “text-book” and a “class-book” of English grammar, and that he intends his book to be the latter. It is meant “for children who already speak and write English fairly well, and who are beginning to learn another language;” and its aim is “to teach, through English, grammatical principles which will serve for any language.” The idea is a good one, though not new; unfortunately it is not very well carried out. For instance, what will a boy understand about “case,” when he comes to Latin and German, if he is taught that it is the relation of a noun to other words in the sentence, instead of the form-ending which marks that relation, or, better still, which marks the relation of the idea expressed by the noun and that expressed by some other word in the sentence? And even worse is the confusion between gender and sex; while, in analysis, though the predicate is defined as “what is said of the subject,” it is made to apply to the verb only, and the term *subject* is limited to the noun only. Mr. Gow tells us that he is not much indebted to any book except Mason’s “Grammar.” He could not possibly have gone to a better authority; but it strikes us as rather a scanty outfit for one who is to set us all in the right way with regard to the teaching of English grammar. It is plainly, however, sufficient for the fulfilment of one of the aims of the book—the showing how difficult a language English is. Mr. Gow has certainly made it more difficult to understand; but we doubt whether the consequence will be “to make English more respected.” The book is evidently written by a man of ability; it is frequently clear and bright in its explanations; and several mistakes common in school books of English grammar are not found in it. But it is neither sufficiently well-informed nor well-thought-out to be recommended for general use. Teachers will, however, find much in its method and plan which is suggestive; though we fear that it will hardly persuade those of them who are disaffected that the general principles of English grammar should form part of the work of every preparatory school.

Columba: a Drama. By J. H. Skrine. (Small 4to, pp. 145. Blackwood & Sons.)—Columba, as our readers will remember, was born in Ireland, early in the sixth century, and was of blood-royal on both sides. In youth he became a monk, and speedily a founder of churches and monasteries. At the age of forty he had a quarrel with King Diarmid, who had dragged the son of the King of Connaught from sanctuary and murdered him. Columba raised his own clansmen, and utterly overcame Diarmid, with great slaughter. To atone for this sin of bloodshed, he exiled himself to Scotland, and built his famous monastery in Iona, and there toiled among the Picts till his death, at the age of seventy-seven. Mr. Skrine commences his story at the battle with Diarmid; and its chief, nay, its sole, interest lies in the struggle which goes on in Columba’s nature between the kingly warrior spirit, which is his by descent, and the priestly missionary life, which is his by choice and conviction. Drama the story is in no true sense; for the action, such as there is, is all *related*, not set before us, and the characters do not act and react upon one another—indeed, they do not *act* at all. *Columba* is a *dramatic poem*, not a drama; but it is a poem of decided power and distinct beauty. The rhythm of the blank verse is good, and though it constantly reminds us of Tennyson, it has, nevertheless an individuality of its own; the lyrics are often melodious and stirring; and the imagination shown in such passages as those which describe the battle of Culdreony, the meeting of Columba and King Brude, and Columba’s own description of his vision, is both powerful and well-used. The poem abounds in lines both musical and strong, and in metaphor and simile employed with much skill and artistic feeling. We have space for but one quotation, which we give rather as typical than as the best. In answer to Columba’s question:

“Can that please heaven which pleases flesh so well?”

Moladius, the hermit, says:—

“Fair son, and hath not God then made the flesh,
And sown the strength in’t, and delight of strength,
And longing for the battle? He who taught
The erne his sunward circlings, gave withal
The thrills and rapture of the unpractised wing
That prick his strong youth skyward. Doubt me not.
Man’s nature is God’s oracle, and grace
Is to know nature as God made her first.”

The thought and the rhythm are both excellent—and there are many such passages. But, somehow, the poem lacks vitality—or, perhaps, it is that lacks action. It is not a great poem; but it is one which a man—even a headmaster—may take to himself great credit for having written, and which many will read with great pleasure.

Heath’s English Classics.—Wordsworth’s Prefaces and Essays on Poetry. Edited, with Introduction and Notes, by A. J. George, A.M. (Cr. 8vo, pp. xiv., 120, price 2s. Isbister & Co.)—Mr. George has already done more than one service to students of English literature, by editing selections from Wordsworth’s poems, and the volume before us is a useful and acceptable reprint of the prefaces of 1800, 1802, and 1815, together with the supplementary essay to the preface of 1815, and the letter to Lady Beaumont. The introduction is not as helpful as it might have been, though it affords some useful information; but the notes are of quite the right kind, and explain and illustrate the text by quotations from, and references to, the writings of many other poets and critics, such as Matthew Arnold, De Vere, Dowden, Coleridge, Lowell, Pater, Shairp, Sir Henry Taylor, &c. Perhaps the quotations might have been more numerous and the references fewer, as young students are not likely to possess many of the books mentioned; but, as far as they go, they undoubtedly make the statements in the text more intelligible and more interesting, as good notes ought to do. Will Mr. George add to his good works, and give us a companion volume, consisting of that part of Coleridge’s *Biographia Literaria* which treats of Wordsworth’s poetry? In many respects it is even better than Wordsworth’s prefaces, and it is the natural complement to them. Meanwhile we are grateful for the favour received. Not only are there keen insight and much good sense in what Wordsworth writes, but these are expressed in very excellent prose, which deserves study for its own sake.

Englands “Oeffentliche” Schulen, von der Reformation bis zur Gegenwart: Ein Beitrag zur Culturgeschichte. By A. Zimmermann, S.J. (Freiburg im Breisgau: Herders’che Buchhandlung, 1.90 m.)—This book is a striking illustration of the industry of German research. Every English teacher knows that the English public-school system contains features of peculiar and remarkable merit, which deserve careful consideration by the historian of education. In England, however, we do not write history; our public-school masters are content to do their share in making it. Hence it is left to a worthy German Jesuit to try his hand, and, considering the difficulties of his subject, he has been fairly successful. He gives us all that can be given by a man who only knows his subject from the outside; that is, he gives us a bibliography, statistics, and other facts. His judgments on questions of Reformation history are, naturally enough, very biased, but they are based to a large extent upon good authorities, and they at any rate make it clear that our pious founders, King Edward VI. and Queen Elizabeth, were not the great benefactors to education which tradition represents them to be. The book is worth getting by English teachers who read German: it offers a great deal of information, and the reader is not likely to be led astray by its errors. It may be regarded as a companion work to an earlier publication of the author’s, in which he discussed English University education from the same standpoint (“Die Universitäten Englands im XVI Jahrhundert,” same publisher and price, 1889).

(1) *Etude Progressive de la Langue Française*: S. M. Stern and B. Méras. (2) *Syntaxe Pratique de la Langue Française*: B. Méras. (H. Holt & Co., New York City; Sampson Low & Co., London.) These two books are written on the same principles as those of Prof. Sauveur, and as the *Etude Progressive* has already reached a ninth edition, the claim put forward by the authors in the preface that the “Natural Method is widely spread throughout the Eastern States” has some justification. To teachers who employ the more established methods of instruction, the book is recommended as a reader. The *Syntaxe Pratique* is a bold and fairly successful attempt to overcome the difficulties met by an English student in attempting to compose in French. Both books are well worth the attention of teachers in England who are dissatisfied with the results obtained from the present method of instruction through translation and composition.

An Introduction to the Study of Rhetoric, for the use of Schools, By the Very Rev. Francis Cuthbert Doyle, O.S.B. (Cr. 8vo, pp. xii., 181, 130, and 93. Sonnenschein & Co.)—This is a very extraordinary book. It is divided into three parts, and the pagination begins afresh for each part. The first part deals with rhetoric, and is mostly written in the form of question and answer. It also contains forty pages of English grammar of an antediluvian

character. Part II. begins with fifty pages of a life of Cicero, followed by synopses of several of his best known speeches. Part III. gives us lives of Æschines and Demosthenes, with analyses of some of their speeches. The lives together occupy forty-four pages out of ninety-three. Parts II. and III. are written with knowledge and skill; and, as separate treatises on the lives and writings of the three great orators, would undoubtedly be of value and interest. But in their present proportions they are quite out of place in an *Introduction to the Study of Rhetoric*. Part I. also has good points; but the form in which it is written seriously detracts from its value. We cannot imagine what schools the author intends his book for, unless it be theological schools for adults. It is certainly not a book suitable for boys and girls in any ordinary school.

OUR LIBRARY TABLE.

The New Readers. Professor Meiklejohn's Series. (A. M. Holden.)—Of this series of new Readers four have just been published, namely, the First and the Second Primers, the Infant Reader and the First Reader. The two Primers rely chiefly on pictures to stimulate the young learner, and the words used in them are all words of a self-consistent notation. Practice is also provided for the hand, so that reading and writing (or printing) may be taught together. The Infant Reader relies also on pictures, and endeavours to stimulate the spontaneous observation of the child. The First Reader gives simple stories. It also provides the usual apparatus of spelling lists, multiplication table, writing practice, etc. Throughout, the type is good, the drawings well executed, and the lessons of original matter, in which dialogue is an important feature.

A Key to the Exercises and Examples contained in "A Text-Book of Euclid's Elements." Books I.-VI. and XI. By H. S. Hall, M.A., and F. H. Stevens, M.A. (Macmillan.)—Two objects have been kept in view in the preparation of this *Key*. It is intended first to save the time and lighten the work of teachers, and secondly to remove the difficulties of private students. The examples have not in the majority of cases been worked out in detail, and the drawing of figures has been left to the reader. Sufficient demands are thus made upon the thought and intelligence of the private student. The portion of the *Key* relating to Books VI. and XI. is published separately.

Combined Standard Arithmetics for Course "S." No. 2. Standards III. and IV. (Blackie.)—A vast number of exercises and tests are given in this small course, and worked examples are set out in such a manner that all steps of importance may be grasped by the pupil at once.

(1) *The Ivy Senior Arithmetic.* (2) *The Ivy Junior Arithmetic.* By William S. Beard. (A. G. Dawson.)—The *Senior Arithmetic* contains six thousand sums in rules beyond practice; the *Junior* over three thousand sums in the simple and compound rules. Both are published without answers.

Six Years' Pupil Teachers' Questions, 1886-1891. (Moffatt and Paige.)—The questions comprised in this book form twelve complete sets of examination papers. Answers are given to the arithmetic, algebra, and mensuration papers, and are, as far as we can see, commendably correct.

Tales from the Works of G. A. Henty. Adapted for Class-Reading. (Blackie.)—Striking episodes, interesting in themselves, and such as suffer least in transference from their setting, have been selected from some of the most popular of Mr. Henty's books, and are now edited for reading in class, chiefly by substituting simpler expressions for the more difficult ones. To lighten any remaining difficulties, full explanations of words and phrases likely to be unfamiliar are appended, and, to make sure that each narrative may be understood, at the head of each selection is printed a short introductory paragraph.

Pope's School Readers. (Smith, Elder, & Co.)—The Readers for Standards I. and II. have been compiled with care, and display a keen appreciation of what should be developed in the child.

(1) *Guide to the Examinations in Hygiene, and Answers to Questions, Elementary Stage, 1886-1892.* By W. Jerome Harrison. (2) *Guide to Examinations in Physiology, and Answers to Questions, Elementary Stage, 1884-1892.* By James Swanson, M.A., M.B. (Blackie.)—These little *Guides* to the examinations of the Department of Science and Art, are companions to books in Messrs. Blackie's Elementary Course of Science Text-books. The questions given in late years form useful collections.

Horace's Satires I. With Translation by Edward Ross Wharton, M.A. (Parker & Co.)—In this edition the Latin text is printed on one side of the page, the English version on the other. The translation is, as far as possible, verbatim—for every distinctive word is translated in the same way wherever it occurs, and the translation of any two Latin words in different places by the same English word has been avoided. A few supplementary notes are appended, consisting chiefly of alternative renderings, which might be used in passages translated apart from the text.

Heath's Modern Language Series.—(1) *La Chute, from Victor Hugo's "Les Misérables."* Edited, with an Introduction and Notes, by H. C. O.

Huss, Ph.D. (2) *La Mare au Diable. By George Sand. Edited and Annotated by F. C. de Sumichrast. (Isbister.)*—These editions, strongly bound in paper covers, form admirable schoolbooks. They are well-printed, well annotated, and contain suitable and helpful introductions.

An Elementary Latin Grammar. By Henry John Roby, M.A., LL.D., and A. S. Wilkins, Litt.D., LL.D. (Macmillan.)—This is an introduction to Mr. Roby's "Latin Grammar for Schools." The main purpose of its preparation has been that the pupil should have nothing to unlearn when he proceeds to his more advanced work. Some parts of the larger book have been reproduced, with slight omissions and occasional simplifications of language. Other parts have been greatly reduced, especially in the syntax.

Selections from Ovid, with Notes, Vocabulary, and Exercises for Translation into Latin Elegiac Verse. Edited by M. J. F. Brackenbury, M.A. (Percival.)—Mr. Brackenbury's notes are short and helpful, and his hints on writing Latin elegiacs form an excellent introduction to the exercises for translation into Latin elegiac verse, which have been adapted from the text.

The Cambridge Bible for Schools and Colleges: Ezra and Nehemiah. Edited by H. E. Ryle, B.D.—This addition to the series of Scripture commentaries published by the Cambridge University Press, is intended to meet the wants of students entering for the Cambridge Local Examinations at the close of the current year. The series is already too well known to our readers to render an extended notice of this latest addition to it necessary. In its general features it resembles its predecessors, and, in point of completeness and method of treatment merits equal commendation.

The Book of Common Prayer: its History and Contents. By Robert J. Griffiths, B.A., LL.D.—This book is very good as far as it goes; but it seems to us to be wanting in a due balance of its parts. Whilst it professes to treat of the history and contents of the Prayer-book, it seems to us that any adequate notice of its contents is conspicuous by its absence. For example, we may quote the chapter on the Holy Communion, pp. 64-73. Of this important office there is one paragraph of sixteen lines, dealing with the explanation of words. Yet this office contains such phrases as "Truly and indifferently minister justice," and "The burden of them is intolerable."

With My Father. By the Rev. Edwin Hobson, M.A., Principal and Chaplain of St. Katharine's Training College, Tottenham. With Preface by the Right Rev. the Bishop of Bedford.—Mr. Hobson is one who is especially competent to provide for the real wants of the young, and in this little compilation, which is a manual of private devotion for boys and girls, he has provided young people with a book which should prove very acceptable to them.

Modern Side Arithmetic: Examples only. By the Rev. T. Mitcheson, B.A. Part I., pp. 114, 1s. Part II., pp. 160, 1s. 6d. Complete in one volume, 2s. (Francis Hodgson.)—Many teachers of arithmetic prefer to work without a text-book giving explanations and rules, and to use only a book of examples. Good books of examples are rare—for it is easy to collect a medley of examples, but a laborious task to arrange a graduated, progressive, and comprehensive collection. Mr. Mitcheson's books are perfect in arrangement, most interesting and suggestive, and thoroughly reliable. The answers seem to be absolutely accurate.

The School Calendar, and Handbook of Examinations and Open Scholarships, 1893. (Whittaker.)—This useful little calendar is fully up to date, and contains reliable information on such matters as the dates of examinations of all kinds, and the scholarships obtainable at public schools, colleges and Universities. The preface, by Mr. F. Storr, deals with three subjects—the Acland-Rosecoe Bill, the resolutions of the Headmasters' Conference that the emoluments of scholarships should not be held by the sons of wealthy men, and technical education and the County Councils. Mr. Storr admits that there are "two glaring blots on the Bill—the absence of the professional element on the County Council, and the absence of any central authority." Mr. Storr also expresses the opinion that "there is no reason why scholarships and exhibitions from the primary schools should not be tenable in private secondary schools willing to submit to inspection as a guarantee of their efficiency." The usefulness of the *Calendar* would be much increased if it had an index.

Cassell's Penny Illustrated Stories. (Cassell.) (1) "His Wife's Sin." By the author of "Beauty and the Beast." (2) "For Greed of Gold." By Thomas Keyworth. (3) "A Fisherman's Sweetheart." By Herbert Russell. (4) "A Chance Word." By Kate Eyre. (5) "Jasper Hall's Triumph." By A. R. Buckland, M.A. (6) "The Despised Diamonds." By Thomas Keyworth. (7) "Sin Will Out." By C. E. C. Weigall. (8) "The Heart of Fire." By the author of "His Wife's Sin." (9) "The Story of a Curse." By Jennie Chappell. (10) "A Romance of the Goodwins." By Herbert Russell. (11) "Forgiven." By C. E. C. Weigall. (12) "The Owner of Fairfield." By C. N. Barham. (13) "Sister Hildebrand's Silence." By Thomas Keyworth. (14) "A Daughter from the Sea." By Mary Hampden.—At last we have some cheap tales for schoolboys which are not unsound in their teaching, which are neither crude nor slangy in style, and which are neither childish nor dry. These fourteen stories are all suited in every way for a scholar's reading-room, or for general recreative reading in the home or school. They are issued every Wednesday.

The Children's Treasury of Lyriical Poetry. Selected and arranged, with Notes, by Frances Turner Palgrave. (Macmillan.)—It is a boon to have so

complete an edition of English lyrics as forms this neat volume of the Golden Treasury Series. All the sweetest songs fit to give pleasure, all the national gems of high and lasting quality, to the number of nearly two hundred, are here, and nothing has been admitted which has not high merit as poetry, and is not perfectly pure in tone. Poems coloured by morbid sentimentalism—"scenes and sentiments alien from the temper of healthy childhood"—have been rigorously excluded by the editor. The notes given at the foot of each page are not too numerous, and yet are sufficient to clear away difficulties for young readers. It is a book in every way suited to give children, youths, and maidens, a pleasant and stimulating foretaste of the treasures of our language.

CORRESPONDENCE.

PROFESSOR LAURIE ON HERBERT SPENCER.

To the Editor of the Educational Times.

SIR,—The admission made by Professor Laurie that his address was a popular one, the purpose of which was to rouse, and in which platform language was used, for emphasis and effect, may sufficiently explain much to which I presumed to raise objection in your December issue. Perfect charity, I understand him, was set aside by rhetorical necessity, in the use of the word "muddled," and I would plead, therefore, a similar excuse for my missile use of "unchristian." I must apologise, unreservedly, to Professor Laurie, if it appeared that any charge of conscious misrepresentation was made or hinted at by me—and I am afraid that my letter may have been read in that sense; but, at the same time, I still believe that Professor Laurie *has*—quite unintentionally—misrepresented the view he criticized.

Dropping, if I may, the controversial style, I would state this: that Professor Laurie misrepresents Herbert Spencer by using (i.) "proximate," and (ii.) "natural" in a different sense. The difference, with regard to proximate, is best illustrated (with the help of the printer) thus:—

<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>
<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
			<i>E</i>
			<i>ε</i>

In this arrangement, *A*, *B*, *C*, *D*, *E* represent successive steps, or acts, beginning at *A* and ending at *E*; and *e* and *ε* are points near *E*. A person aiming at *E* as his final end, has *B*, on the way thereunto, as his proximate end, as the word is used by Herbert Spencer. But Professor Laurie reads proximate end, as a final aimed at, near to, but not quite the same as, *E*; if *E* represented the ideal end, *ε* and *e* would be "practical or proximate ends," as I interpret Professor Laurie. Herbert Spencer speaks of "gradual approximations to an ideal," meaning the successive stages on the thorny path, *B*, *C*, *D*, *E* to *E*, the ethical ideal. Professor Laurie suggests the idea that Mr. Spencer recommends an easier route, *b*, *c*, *d* to a spurious substitute for *E* at *e*. I would ask Professor Laurie if this is not the case.

Then Mr. Spencer uses "natural" in such a wide sense that psychology might be spoken of as one of the natural sciences, according to his use, while Professor Laurie's meaning is such that he would omit psychology from a list of these; and to Mr. Spencer "pleasure" is that quality of association determining impulse in its direction, while the meaning given the word by Professor Laurie in this discussion is the end of sensual desire.

It would be gross presumption for me to pretend to decide in these differences. What my first letter was intended to point out was that, through their misdirection, Professor Laurie had failed to join issue with Spencer at all on his most important points, but had wandered after and belaboured an approximated Herbert Spencer with a muddled mind.

I admit the absurdity that has arisen by my writing as though I were defending Mr. Spencer. At the same time, Professor Laurie's praise of Mr. Spencer, and his admission of the value of his work, is a very welcome postscript to his lecture. It is well known that Mr. Spencer engages in no controversy, and, this being the case, the discussion by an outsider of Professor Laurie's criticisms is less an impertinence than it would otherwise be. The question whether Mr. Spencer be an agnostic or no is beyond the range of my knowledge or curiosity, and it scarcely affects the essentials of this matter.—I am, Sir, &c.,

H. G. WELLS.

TERM AND WEEKLY REPORTS.

To the Editor of the Educational Times.

SIR,—There seems to me a want in the library of the College of Preceptors, which might be easily supplied, without any cost

whatever, and which we cannot expect to find supplied in other libraries not devoted to education. I allude to the absence of any file of specimen reports in actual use in the schools of our country at the present time. Most middle-class schools send home to the parents a termly report of each scholar; while, with many, a weekly report book is in vogue.

Files of specimen termly reports, weekly reports, and other special school printing, would be most valuable as a historical record of plans in use, and most useful for comparison by many a principal.

Most of us have our own pet schemes, on which, however, we should be glad to have the criticism of others in the profession, or to graft ideas from others' experience.

I suggest that all who print these reports should send specimens to the office, and that the librarian should have them properly kept. With the idea of bringing the matter before the notice of the members of the College I write this letter, and intend to bring it up at the annual meeting.—I am, yours faithfully,

CHAS. W. A. BROOKE, M.A. (Member.)

Victoria College, Stroud Green, N.,

6th December, 1892.

EDUCATIONAL NOTES AND SUMMARY.

THE special committee appointed by the London County Council has reported on the technical education question. The report, prepared by Mr. Llewellyn Smith, M.A., extends to two hundred pages. The first part of the report surveys the powers of the London County Council, under the two Acts of Parliament, in this matter. Under the Local Taxation Act power is given to treat the residue of the Beer and Spirit Duties as though it were a rate for the purposes of the Technical Education Acts. The Council is therefore authorized to spend the money upon any or all of three objects: (a) it may supply technical education—i.e., work directly, by founding schools, establishing classes, and engaging teachers itself; (b) it may aid the present supply—i.e., work indirectly by making grants to governing bodies and classes, under certain conditions; and (c) it may establish scholarships and exhibitions. There is very little restriction upon the Council's power of direct supply, beyond the fact that no part of the funds may be used for the instruction of children still in the elementary school standards. With regard to grants to existing institutions, due attention must be paid to the nature and amount of efficient education supplied; and, further, the Council must be represented on the governing bodies in such proportion as will correspond to the proportion which the grant given bears to the total income other than that from local rate or money provided by Parliament. The exception to this rule of representation is in the case of grants to the School Board. Schools conducted for private profit are not eligible for grants, but the report states that it is not forbidden to allow scholarships to be held at such schools.

THE second part of the report classifies institutions, and suggests that the Council's efforts should at first be directed towards the development of existing institutions. Ultimately the Council should supply schools and institutes on a municipal basis, as well as aid institutions under other management. It is urged that the establishment and maintenance of a few first-rate municipal institutions would set up and maintain a high standard of teaching throughout London. The inquiry has proved that the existing agencies are not sufficient, and that London is far behind our provincial towns in respect of technical and commercial colleges.

THE question which most concerns the immediate future is the financial one—how much has the County Council to give to educational purposes this year, and how is it suggested that the sum shall be spent? The report recommends that for the first year a sum not exceeding £80,000 should be devoted to grants. The suggested division of the money is as follows:—Polytechnic institutes, £16,000; secondary and higher-grade education in day schools for ex-elementary scholars, £22,000; scholarships, £8,000; higher institutions, £3,800; art teaching, £10,000; science teaching, £6,000; technology and manual training, £5,000; household economy, £3,200; commercial subjects, £2,000; and technical museums, £4,000.

UNDER the head of "higher institutions," the report suggests

that grants, amounting in all to £3,800, be made to University College, King's College, Bedford College for Women, and the University Extension Society. The report makes two other proposals of an important character. The first is that a sum of £10,000 should be set aside as an endowment for the technical work of the proposed Teaching University for London, the offer to be made conditionally upon the University receiving a charter within two years. The second is the creation of a municipal School of Architecture. The scholarship grant of £8000, it is suggested, should be thus distributed:—One thousand "Minor" scholarships of £5; one hundred and fifty "Major" at £20; and ten special higher scholarships at £60. In addition to the expense of the actual grants, the report suggests that £5000 should be reserved for central administrative expenses; and that the technical education department of the Council should act as a central intelligence bureau, receiving particulars of all technical classes in the various districts, and generally co-ordinating the work of the various institutions.

THE Cambridge Training College for Women Teachers' continues to advance. In the Cambridge Teachers' Examination of December, fifteen of its students passed in the Theoretical Examination, one with distinction; sixteen passed the Practical Examination, five with distinction; and in the London Teachers' Examination of December, four students from the same college passed, and one was specially distinguished.

THE new technical schools in connexion with Nottingham University College were, on the 12th ult., formally opened by the Master and Wardens of the Drapers' Company, of London, who have been munificent contributors to the cost of these schools. Some ten years ago a technical department was commenced at the College, towards the support of which the Drapers' Company made a grant of £300 a year for six years, with an additional £200 for outfit in the first year. The development of this department has been such as to lead to the erection of the new schools, which now form a handsome wing of the College buildings. Towards the building fund and equipment, the Town Council received the sum of £4000 from the Drapers' Company, and a bequest of £3000 in addition to an income of £100 a year, from a former citizen of Nottingham, the late Mr. F. C. Cooper. The total cost of the building, irrespective of the fittings, is about £13,000. The course of instruction includes mechanical and electrical engineering, lace and hosiery manufacture, wood-work, as carpentry and pattern making, fitting, and turning, and plumbing. The Master of the Drapers' Company having formally declared the schools open, the Postmaster-General moved a vote of thanks to the Company for their munificence and to the Master and Wardens for their presence. The right hon. gentleman said that, although the meeting was held in connexion with a local institution, it was associated with a great national movement—the recognition by the commercial classes, and indeed by the people of this country, of the fact that if it were to maintain the commercial and manufacturing supremacy which we, as a nation, had held in the past, we must enable the industrial classes to obtain an education which would fit them for the more difficult and complicated tasks imposed upon them. London might be described as the lungs and heart of the commercial system of the country, and that fact he thought explains why a great City company had given such substantial marks of their sympathy with the work which the Nottingham Corporation had undertaken.

SIR MOUNT-STUART E. GRANT DUFF, when opening an Institute of Mercantile Education at Streatham Common on the 18th ult., used significant language in reference to proposals for the organization of secondary education: At the outset he observed that, had the Institute just opened been an ordinary school, he would not have seen his way to be present. We had quite enough of schools of the ordinary sort. What was necessary at present, for the good of secondary education, was intelligent organization of existing forces. We were likely to see greater changes in secondary education than was generally expected. A leading member of the party in power had told him that he hoped to see the whole of the secondary education made gratuitous. In an age like this, when the most unpopular of all the commandments was the eighth, he thought this plan for transferring money from the pockets of those who had it to the pockets of those who had it not, would have a great many important supporters. This school had for its object the in-

struction rather than the education of the boys, and in that limited object he believed they would succeed. If our youths did not make themselves proficient in commercial geography and modern languages they would be cut out by young Germans.

WHETHER or no Professor Bryce is the leading member of the party now in office who harbours such revolutionary ideas, in connexion with secondary education, as Sir M. G. Grant Duff revealed, we know not; but the inference to be drawn from this Cabinet Minister's latest public utterance justifies the belief that the Government means to utilize existing local bodies for the furtherance and supervision of education above elementary in their respective districts. At Kingston on Saturday, the 21st ult., Mr. Bryce opened a Young Men's Club and Institute, and, in the course of his observations, said that, owing to the decay of the old apprenticeship system, and the extraordinary development in many branches of art and industry, far more careful and exact instruction was now needed than was the case a hundred years ago. More knowledge was required, greater skill, and greater exactitude in details, and these things ought no longer to be left to chance, but should be properly provided for those who had their livelihood to make. The work of public authorities ought not to stop at technical education. Public authorities had already some control over elementary education, but he thought education of a higher grade ought to be the concern of public bodies.

LORD JUSTICE BOWEN delivered a short but interesting address on education, at a recent certificate distribution at the Working Men's College, Great Ormond Street. Sir Charles Bowen being a very accomplished scholar and a very eminent judge, any utterance of his on education might be expected to be free from clap-trap—absolutely devoid of those glib, parrot-like common-places which come so easily and mean so little in the mouths of the majority of platform speakers. Referring at the outset to Professor Mahaffy's gloomy article in last month's *Nineteenth Century*, his Lordship said we must, indeed, frankly admit that the spread of education had not turned England into an intellectual paradise. But we must also bear in mind that the first result of an educational movement was to produce a general diffusion of mediocre knowledge, and it was idle to expect a literary millennium to set in at once. As the poet said, "Knowledge comes, but wisdom lingers." Intellectual modesty and reserve, a sense of proportion, and a wholesome habit of discrimination, had to be acquired. Touching on the influence of competition in education, he confessed that he was not an enthusiast about competitive education. Competition seemed to him, both as regards the moral health of individuals, and the service of the public, to have many drawbacks; but it was surely something in its favour that it had thrown open vast fields of energy to the multitude. It was true that we were in danger, in this country, and at these times, of estimating education from too commercial and mechanical a point of view. Instruction ladled out in a hurry was not education. The cultivation, for market purposes, of brute brain power had its uses, public and private, but the market advantages of education were not the criterion of its value, either to individuals or the nation. It would be a public mischief to label learning with the badge of a selfish use. In ancient times when duty to the state was the keynote of civilization, education was the development of mind and body which tended to produce the ideal citizen, but it was not possible to continue for ever to limit human obligations to so narrow a definition. The time came when the interests of one community no longer seemed to be the horizon which bounded duty. "Men perish, but humanity remains," said Seneca, and the Romans, sensible of that fact, conferred upon learning a name derived from the conception of human sympathy for mankind. Education, taught by this principle, ceased to be a personal struggle, and became an illumination.

WE hear that Mr. P. A. Barnett, the able Principal of the Borough Road Training College, has accepted an inspectorship under the Education Department. By liberalizing the education in one college, Principal Barnett has, in a few years, helped to raise the status of the Training College generally, and to lift up their work to a University level; hence his removal will be a loss to this important branch of education. We understand that in all probability the vacancy will be filled by a general promotion of the remaining officers of the College.

As a proof of the strict discipline exercised in German Universities with reference to the conduct of matriculated students, we may mention the fact that during the present academical year the names of not less than thirty students were put on the *Black Board*, with the notification that they have been removed from the University registers, because the young students had absented themselves from the town without the requisite permission from the authorities of the University.

THE *Revue Pédagogique Belge* gives an animated account of a day's outing held in connection with the Prévost Orphanage. Sunday was the day fixed for the *fête*, and the children had a public parade on the school premises at an early hour. Then came the "march out," not in the regulation stilted fashion, but the boys and girls were allowed to group themselves at will, and to step to the sounds of the bugle, indulging at intervals in one of their numerous school songs. In less than two hours they had covered the five miles which separated them from their rendezvous. The party camped in a shady place, and, divided into sets of twenty, commenced preparations for the meal. The commissariat waggon discharges its load, and in a few minutes the "table" is set. Bread, corned beef, cheese, and fruit are served round, and a neighbouring fountain yields an abundant supply of water. The work of serving is well performed without blunder or hurry. Goodfellowship and cheerful gaiety prevail; there is neither rudeness nor disorder; hearty laughter, friendly sallies, and lively conversation are the order of the day. After a short rest, the children botanize or make bouquets. Games and dances follow, and the party winds up with a country dance. The return is accomplished in the same way as the outward journey. After supper a pupils' concert is given in the large hall, which is filled with an appreciative audience. There is no "get-up" about the items, all of which are taken from the ordinary performances in the school, the simple preparation of scenery and dresses being made by the pupils themselves. At half-past nine the concert ends, thus bringing to a termination a *fête* day thoroughly enjoyed by all.

IN China, the *Schoolmaster* remarks, instruction is quite free and unrestricted; any ignorant charlatan may open a school, without any interference on the part of the Government. The character of the teacher is a matter simply for the parents. When it is desired to start a school, the chiefs of the village or the district of a town assemble, appoint a teacher, and decide upon his salary. A place is furnished, and the school opens. If the teacher wishes to retire, he is allowed to do so with very little ceremony, and another is appointed. The Government, however, exercises an indirect influence over the school when the time comes for the competitive examination, which is possibly going to raise some of the scholars to high office. The students then place themselves under competent masters, who make them study the famous Chinese classical works, upon which the examination is based. The more well-to-do are accustomed to resort to coaches, who give private lessons at their pupils' own homes, and sometimes lodge with the family. As to primary instruction, there is, according to M. Huc, the missionary, no country in the world where it is more widely diffused. Among the farms, fenced around with fine bamboo plantations, one finds the schoolmaster, generally an old man with white beard and moustache, his nose surmounted with an enormous pair of spectacles. He very often lives in a pagoda, and receives his emolument in kind from the husbandmen after the ingathering of the harvest. If the crop is poor, the dominie finds himself in a miserable plight. In the northern provinces, on account of the rigours of the winter, the schools are fewer in number and smaller than those further south. The lower civilization of the northerners is easily perceived. In the central provinces the Chinese are full of vivacity and intelligence, and devote themselves assiduously to the study of literature. It is not, however, correct to say that no Chinaman is uneducated. Out of ten ordinary Celestials, only one is able to read properly. The other nine—and it is this which gives a false impression about their achievements—are able by a sort of daily practice to read and write certain characters, which just suffice for their own particular business. The Chinese pedagogues teach their pupils the various methods of saluting, and the deportment which they ought to assume towards parents, superiors, and equals. When he has mastered the elements, the pupil studies in succession the "San-dre-King,"

a sort of poetical book of nature and morals, from the Celestial standpoint. Then follows "Ta-Hio," a treaty on politics and morals; "Tchouang-Young," a book of wisdom; "Lum-Yu," a book of moral and political maxims; and "Meng-tze," a book of philosophy. These are followed by the "King" series, which contains old legends and records in five volumes. The great defect in Chinese education is that it develops no reasoning or reflection in the pupil's mind. The pupil is only called upon to exercise his memory on works the sense of which he rarely comprehends, and which his teacher expressly refrains from explaining. The mental exercise which is furnished by the study of mathematics or metaphysics is quite wanting. The memory is cultivated at the expense of the reasoning faculties. If a pupil appeared to think out any idea for himself, it would be something which had been previously expressed. In a word, Chinese education is retrospective; always and continuously it looks behind, never before.

WRITING on "The Study of Botany in Schools," in the *New York School Journal*, Mr. C. Fezandie says: The question now arises, What is the proper way to teach the subject? If the child is sent forth into the woods to examine the trees and the flowers, his observations will be very incomplete, and the teacher must lead him to make thorough examinations and use comparison freely. But do not attempt to teach technical terms. Allow the child to use its own language, however imperfect, to describe the parts of the plant; even terms in such general use as "calyx, corolla, sepal, petal, stamen, pistil," &c. should never be memorized. In our primary schools, the study of botany is often found on the programme, but in the class-room it becomes converted more into a study of definitions. I have seen whole schoolrooms of children wasting their time at learning to classify serrate, dentate, ovate, cordate, and many other insensate classes of leaves. The pupils could take a flower and name every part correctly, from the stigma to the peduncle, but they had no knowledge whatever of botany. Humanity has many religions, but none is so widely spread, and so profound, as the worship of technical terms. We bow down to them every day in the year, whatever the form in which they present themselves. The man who ignores the professional terms of his calling, even the most unusual ones, is at once set down by popular verdict as an ignoramus. True, it is impossible to study any subject well, without imbibing, as it were, a knowledge of the most important ones, but we go a step further. By a curious metonymy, we come to take the sign for the thing signified, and to look upon a man familiar with the technicalities of a subject as one possessing real knowledge, when, in reality, he is no better off than a man who possesses a few isolated parts of a machine, and has no means of putting them together. No mistake could be greater, or fraught with more danger, than this—to take a knowledge of names for real knowledge—as it conceals from us our own ignorance. We give a name to something we do not understand, call it electricity, or the attraction of gravitation, and, having thus cheated ourselves into the belief that we have learned something about these forces, we rest satisfied with what we have done, and do not seek to go any further. It may be objected that we are all more or less obliged to use technical terms; even the baby has to learn our arbitrary words for the commonest objects, in order to understand his parents, and to make himself understood. But this knowledge of words, while necessary, to a certain extent, as a means of receiving or communicating knowledge, or even as an aid in carrying on complex trains of thought, is of no value whatever *per se*. And a safe rule to follow in education is for the teacher not to attempt to make children use technical terms, but merely use the necessary ones herself, explaining them as she does so. As soon as the child becomes accustomed to hearing them and thinking of them, he will begin to use them spontaneously of his own accord. It is only in this way that a knowledge of technical terms can be profitably acquired, whatever be the subject studied.

UNIVERSITY INTELLIGENCE.

UNIVERSITY OF LONDON.

The remaining reports upon the autumnal examinations, outstanding when our last number went to press, are the following:—

Honours in Surgery at the B.S. Examination:—Fifteen candidates are successful six being in the first class. The University scholarship and a gold medal go to Dr. E. P. Paton, of St. Bartholomew's; the second medal goes to Mr. H. A. Ballance, of University College; and the third

candidate in order of merit, Mr. H. S. Sandifer, of King's College, has obtained the number of marks qualifying for a medal.

Ten candidates out of fifteen have passed the Intermediate Examination in Music, but only one has got into the first division, viz., Miss J. W. Kirkealdie, B.A., of the Royal Holloway College. Another lady passes, viz., Miss F. G. E. Higgins, a private student. At the Intermediate D.Mus. the only candidate, Mr. T. H. Davis, B.A., a private student, passes in the second division. No candidate has obtained the full doctorship, although we hear there was a candidate for it.

It is reported that the Senate have made an addition to the syllabus of each of the Intermediate Examinations in Music, requiring a simple and an advanced knowledge of Harmony and Counterpoint at the lower and higher examination respectively. Candidates, therefore, who are studying for this faculty, should possess themselves of the regulations, of which a new edition is usually published early in the year.

The winter series of examinations began with the Laws faculty on the first week-day of the new year. At the Intermediate Examination in Laws, 46 candidates have passed, out of 62, a good 74 per cent.; and at the LL.B. Examination 25 have passed, out of 33, or nearly 76 per cent.: these proportions of passes are, we believe, higher than in any previous year since the present scheme of examination was started, which is about six-and-twenty years ago. The reports on the Honours and on the LL.D. Examination have not yet been posted.

The Matriculation Examination, and the Preliminary and Intermediate Examination in Medicine, have also been held during January; but the reports are not due till February. The numbers of the candidates at all of them are said to have been higher than at any previous January examinations.

The January meeting of Convocation was held on the evening of Tuesday, the 17th. The daily papers have already announced the result of the voting for the three gentlemen proposed for nomination to the vacant chair in the Senate, viz., for Dr. Collins, 855 votes; Mr. Howse, 642; and Mr. Bennett, 218. Three or four hours were delightfully spent in discussing yet one more "Scheme for the Reconstitution of the University," which is likely to have as much effect on the course of events as Mrs. Partington's mop had on the Atlantic. A matter of more interest probably to the readers of this journal was the carrying of a resolution in favour of instituting a degree ("a high degree") in Education, and referring it to the Annual Committee "to consider a scheme [of examination?] for such degree and report to the next meeting of Convocation." This form of resolution will necessitate a pronouncement of some kind on the part of the Committee. On a previous occasion the Committee had only to consider whether the institution of such a degree was desirable, and it shelved the whole question by leaving the report of the sub-committee on the subject unadopted.

CAMBRIDGE.

The Chancellor has, by letters patent, reappointed Mr William Forsyth, M.A., Q.C., of Trinity College, as Commissary.

Mr. Louis Cobbett, M.A., M.B., of Trinity College, has been appointed Demonstrator in Pathology, in the place of Dr. Lloyd Jones, resigned.

The following have been appointed members of special boards of studies:—Divinity—Mr. F. Wallis, Gonville and Caius; Biology and Geology—Mr. A. E. Shipley, Christ's; History and Archæology—Dr. Cunningham, Trinity.

The election of a Hulsean Lecturer will be held on Saturday, February 18th. Candidates must be Masters of Arts or of some higher degree in the University of Cambridge, of the age of thirty years or upwards, and in Holy Orders. The Lecturer holds office for one year, receives about £70, and is required to preach at least four sermons during his year of office at times prescribed by the authorities of the University. He is not required to print or publish his sermons. The names of candidates may be sent to the Vice-Chancellor as early as convenient, for communication to the electors. The choice of the electors is not necessarily limited to such candidates.

OXFORD.

The examiners for the Mathematical Scholarships and Exhibitions, 1893, have made the following award:—Senior Mathematical Scholarship—Mr. R. C. Fowler, B.A., New College; *Proxime accessit*—Mr. S. A. F. White, B.A., Wadham College, to whom they have awarded Lady Herschell's book. Junior Mathematical Scholarship—Mr. C. B. Underhill, Balliol College. Junior Mathematical Exhibition—Mr. J. F. M'Kean, Hertford College.

The Rev. A. J. Carlyle, B.A., of Exeter College, has been elected to a Chaplain Fellowship in University College. Mr. Carlyle took a first class in Modern History (1886) and a second class in Theology (1886). He has been President of the Union, and was for some time general secretary of the Society for Promoting Christian Knowledge.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

Lord Aberdare presided at a meeting held at Cardiff, when the prizes awarded to the successful students of the University College of South Wales and Monmouthshire were distributed by Dr. Vaughan, Dean of Llandaff. The meeting, which was a large and enthusiastic one, was addressed by the Dean, Lord Aberdare, Principal Viriamu Jones, and

others, all of whom remarked upon the progress made by the College since its foundation nearly ten years ago. Reference was made to the fact that in October last a larger number of students had graduated at the London University from Cardiff than from any other institution; and hope was expressed that, with the prospective advantages of the establishment of intermediate schools and a degree-conferring University for the Principality, the future would be even more brilliant.

TEACHERS' DIPLOMA EXAMINATION.—PASS LIST.

JANUARY, 1893.

Theory and Practice of Education.

FELLOWSHIP.

Lynam, J. D.

LICENTIATESHIP.

Cox, C. H.
Graham, G. L.
Hill, C. G. J.
Shaw, Miss K. M.
Smith, A.

ASSOCIATESHIP.

Auneur, R.
Barker, Miss M. E.
Bedford, H.
Berry, T. W.
Booth, Miss A. S.
Bradbury, E. C.
Brimacombe, A.
Buisseret, A. J.
Bunting, L. T.
Chalmers, Miss E. G.
Dowding, Mrs. A. L.
Dunstan, W.
Greenwood, Miss L.
Holbrook, Miss L. A.
Humphrey, C. R.
Martin, A.
Matthews, C.
Newman, H.
Pegler, Miss E. M.
Peters, W. E.
Pickard, A.
Powell, W. W.
Pugh, Miss A. M.
Riddle, G.
Riley, A. B.
Smith, Miss A.
Staines, Miss B. M.
Thomas, E. W.
Watts, Miss L.
West, J.
Winkworth, W. T.
Woolley, J.

English Language.

Badham, S.
Beer, C. E. (hon.)
Beer, H. L.
Bevon, S. H. W.
Brittain, J.
Buisseret, A. J.
Burge, Miss R. M.
Cox, C. H.
Cudlipp, Miss E. O.
Daniels, W. J. P.
Everitt, Miss H. C.
Golledge, E. J.
Halford, Miss F. E.
Halford, Miss J.
Holbrook, Miss L. A.
Hughes, Miss J.
Langley, Miss E. J.
Lock, Miss A. J.
Mansell, Miss E. H.
Manville, Miss H.
Parrett, Miss E.
Pavie, W. (hon.)
Peters, W. E.
Pritchard, T. H.
Quarmby, J. F.
Shimwell, Miss M. K.
Tapp, Miss F.
Walford, Miss M.
Watts, Miss L.
Weston, Miss E. A. W.
Worman, A. N.

History.

Badham, S.
Beer, C. E.
Bevon, S. H. W.
Bissell, J. R.
Brittain, J.
Buisseret, A. J.
Burge, Miss R. M.
Clark, A. C.
Cox, C. H.
Cudlipp, Miss E. O.
Everitt, Miss H. C.
Finn, Miss F.
Follett, Miss E. C.
Harris, Miss F. S.
Hedder, Miss E. M.
Holbrook, Miss L. A.
Humphrey, C. R.

Ingram, C. F.
Langley, Miss E. J.
Lock, Miss A. J.
Maydwell, Miss M. E.
Pavie, W.
Peters, W. E.
Pritchard, T. H.
Quarmby, J. F.
Rawlings, Miss E. S.
Sayer, Miss A. M.
Tapp, Miss F.
Watts, Miss L.
Webb, A. D.
Woolfson, Miss C.
Worman, A. N.

Geography.

Badham, S.
Beer, C. E. (hon.)
Bevon, S. H. W.
Bissell, J. R.
Boyd, Miss M.
Buisseret, A. J. (hon.)
Burge, Miss R. M.
Brittain, J. (hon.)
Cann, Miss C.
Cann, Miss E. I.
Carpenter, C. E.
Clark, A. C.
Clutton, Miss E. A.
Collins, Miss F.
Collyer, A. E. (hon.)
Cowens, Miss M. I. D.
Cox, C. H. (hon.)
Cudlipp, Miss E. O.
Daniels, W. J. P.
Dobbins, H. W. H. (hon.)
Everitt, Miss H. C.
Finn, Miss F.
Follett, Miss E. C.
Golledge, E. J. (hon.)
Harris, Miss F. S.
Holbrook, Miss L. A. (hon.)
Huddleston, Miss B. (hon.)
Humphrey, C. R.
Langley, Miss E. J.
Lock, Miss A. J.
Mansell, Miss E. H.
Maydwell, Miss M. E.
Page, Miss M. F.
Parrett, Miss E.
Pavie, W.
Peters, W. E. (hon.)
Pritchard, T. H. (hon.)
Purves, Miss M. G. (hon.)
Quarmby, J. F. (hon.)
Rawlings, Miss E. S.
Rumbold, Miss E.
Sayer, Miss A. M.
Sprange, Miss E. A.
Tapp, Miss F.
Treasure, J. D.
Walford, Miss M. (hon.)
Watts, Miss L.
Woolfson, Miss C.
Worman, A. N. (hon.)

Arithmetic.

Badham, S.
Bevon, S. H. W. (hon.)
Brittain, J.
Buisseret, A. J.
Carpenter, C. E.
Clarke, Miss E. F.
Collyer, A. E.
Cox, C. H. (hon.)
Cudlipp, Miss E. O.
Daniels, W. J. P.
Denning, R. D. G.
Emms, A.
Everitt, Miss H. C.
Follett, Miss E. C.
Golledge, E. J.
Graham, G. L. (hon.)
Haysman, A.
Holbrook, Miss L. A.
Hughes, Miss J.
Humphrey, C. R.
Langley, Miss E. J.
Parrett, Miss E.
Peters, W. E.
Pritchard, T. H.
Riley, Miss L.
Smith, A. (hon.)
Smith, Miss A.
Tapp, Miss F.
Thornhill, J. H.

Walford, Miss M.
Weston, Miss E. A. W.
Worman, A. N.

Algebra.

FELLOWSHIP.

Lynam, J. D.

LICENTIATESHIP.

Boyd, A.
Cox, C. H.
Graham, G. L.
Smith, A. (hon.)

ASSOCIATESHIP.

Beer, C. E.
Bevon, S. H. W.
Butler, S.
Daniels, W. J. P.
Follett, Miss E. C.
Holbrook, Miss L. A.
Peters, W. E.
Ruler, J. G.
Smith, Miss A.
Treasure, J. D.
Weston, Miss E. A. W.

Euclid.

LICENTIATESHIP.

Boyd, A. (hon.)
Cox, C. H.
Graham, G. L.
Smith, A.

ASSOCIATESHIP.

Beer, C. E.
Butler, S.
Clutten, Miss E. A.
Everitt, Miss H. C.
Follett, Miss E. C.
Holbrook, Miss L. A.
Langley, Miss E. J.
Peters, W. E.
Smith, Miss A.
Thornhill, J. H.
Webb, A. D.

Trigonometry

FELLOWSHIP.

Lynam, J. D. (hon.)

LICENTIATESHIP.

Beer, H. L.
Boyd, A. (hon.)
Brittain, J.
Cox, C. H. (hon.)
Smith, A. (hon.)

Analytical Conics.

FELLOWSHIP.

Lynam, J. D. (hon.)

LICENTIATESHIP.

Boyd, A. (hon.)
Cox, C. H.
Smith, A.

Differential and Integral Calcul

FELLOWSHIP.

Lynam, J. D. (hon.)

Natural Philosophy.

LICENTIATESHIP.

Boyd, A.
Cox, C. H.
Graham, G. L.
Hill, C. G. J.
Smith, A. (hon.)

French.

FELLOWSHIP.

Lynam, J. D.

LICENTIATESHIP.

Brittain, J.
Yardley, W. R.

ASSOCIATESHIP.

Buisseret, A. J. (hon.)
Burge, Miss R. M.
Chapman, Miss M. E.
Clarko, Miss E. F.
Everitt, Miss H. C.
Finn, Miss F.
Haysman, A.
Howard, Miss A. M.
Jordan, F. J.
Langley, Miss E. J.
Lock, Miss A. J.
Morris, Miss M.
Pritchard, T. H.
Purves, Miss M. G.
Rawlings, Miss E. S.
Riley, Miss L.
Tapp, Miss F.
Thornhill, J. H.

German.

ASSOCIATESHIP.

Howard, Miss A. M.

Latin.

LICENTIATESHIP.

Brittain, J.
Yardley, W. R.

ASSOCIATESHIP.

Beer, C. E.
Buisseret, A. J.
Daniels, W. J. P.
Pavie, W.
Pritchard, T. H.

Greek.

ASSOCIATESHIP.

Beer, C. E.
Daniels, W. J. P.

Experimental Physics.

FELLOWSHIP.

Lynam, J. D.

ASSOCIATESHIP.

Large, J. R.

Chemistry.

FELLOWSHIP.

Lynam, J. D.

LICENTIATESHIP.

Bissell, J. R.
Boyd, A.
Cox, C. H. (hon.)
Graham, G. L.
Smith, A.

ASSOCIATESHIP.

Webb, A. D.

Animal Physiology.

LICENTIATESHIP.

Cox, C. H.
Hill, C. G. J.
Smith, A.

ASSOCIATESHIP.

Webb, A. D.

Zoology.

ASSOCIATESHIP.

Large, J. R.

Geology.

ASSOCIATESHIP.

Large, J. R.

Drawing.

Burge, Miss R. M.
Carpenter, C. E.
Collins, Miss F.
Cudlipp, Miss E. O.
Holbrook, Miss L. A.

Scripture History.

Golledge, E. J.
Peters, W. E. (hon.)

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending January 31st, 1893.

- Æschylus's Prometheus Bound*, translated by the Earl of Carnarvon, cr. 8vo, 6s. cl.
Annals of Botany, edited by Isaac B. Balfour, Vol. 6, 8vo, 44s.
Aristotle's Constitution of Athens, a Revised Text, with Introduction, by J. E. Sandys, 8vo, 15s. cl.
Atkins's (T. De C.) The Kelt or Gael, his Ethnography, 5s. cl.
Bacour's Advancement of Learning, Book 1, edited, with Notes, &c., by F. G. Selby, 12mo, 2s. cl.
Bender (F.): Klassische Bildermappe, Parts 8 and 9, 2m. 40.
Bidgood's (J.) Course of Practical Elementary Biology, 3s. 6d.
Cambridge Bible for Schools and Colleges: Ezra and Nehemiah, with Introduction by H. E. Ryle, 4s. 6d. cl.
Commentaria in Aristotelem Græca, Vol. 20, 25m.

- Faulmann (K.): Etymologisches Wörterbuch der deutschen Sprache*, 12m.
Horace's Satires I., with Translation by E. R. Wharton, 2s.
Invasion of India by Alexander the Great, being Translations, with Introduction, by J. W. McCrindle, 18s. net.
Jackson's (J.) The Theory and Practice of Handwriting, Practical Manual, 8vo, 3s. 6d. cl.
Jackson's (T. G.) Wadham College, Oxford, its Foundation, Architecture, and History, demy 4to, 31s. 6d. half-bound.
Kemble (John), A Biography. by W. Lock, cr. 8vo, 5s. buckram.
Laurie's (S. S.) Institutes of Education, cr. 8vo, 5s. cl.
Longman's Readings in Modern Prose for Use in High Schools, by J. Adam, cr. 8vo, 2s. swd.
Miles's (E. H.) Comparative Syntax of Greek and Latin, Part 1, 8vo, 7s. 6d. cl.
Nicholls's (H. A. A.) Text-Book of Tropical Agriculture, 6s.
Pitman's Shorthand Instructor, cr. 8vo, 3s. 6d. cl.
Portuguese Dictionary, by H. Michaelis, 2 vols. (Portuguese-English and English-Portuguese), 8vo, 30s. cl.
Roby (H. J.) and Wilkins's Elementary Latin Grammar, 2s. 6d.
Sell's (V. P.) The Mechanics of Daily Life, cr. 8vo, 2s. 6d. cl.
Sharpless's (I.) English Education in the Elementary and Secondary Schools, cr. 8vo, 4s. 6d. cl.
Sloane's (T. O'Connor) Standard Electrical Dictionary, 12s. 6d. cl.
Smith's (W. B.) Introductory Modern Geometry, cr. 8vo, 5s.
Souvestre's (E.) Un Philosophe sous les Toits, edited, with Introduction and Notes, by H. W. Eve, 12mo, 2s. cl.
Sowerby's English Botany, Vol. 13, Supplementary Supplement to 3rd Edition, Vols. 1-4, compiled by N. E. Brown, roy. 8vo, 17s. cl.
Todd's (A.) Parliamentary Government in England, its Origin, &c., abridged by S. Walpole, 2 vols., cr. 8vo, 15s.
Wyclif (John), Last of the Schoolmen, &c., by L. Sergeant, cr. 8vo, 5s. cl. (Heroes of the Nations.)

ADJOURNED MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

An adjourned meeting of the Council was held at the College on Saturday, the 21st ult. Present—Mr. Brown, in the chair; Rev. J. O. Bevan, Mr. Bidlake, Mr. Charles, Rev. Dr. Conder, Dr. Dillon, Mr. Eve, Miss Jebb, and Mr. Pinches.

Diplomas were granted to the following, who had passed the required Examination:—*Fellowship*: J. D. Lynam; *Licentiate*: A. Boyd, A. Smith, C. H. Cox; *Associate*: R. Annear, H. Bedford, T. W. Berry, Miss A. S. Booth, Miss M. Boyd, E. C. Bradbury, A. Brinacombe, A. J. Buisseret, L. T. Bunting, S. Butler, Miss C. Cann, Miss E. I. Cann, Miss E. G. Chalmers, A. E. Collyer, Miss M. I. D. Cowens, Mrs. A. L. Dowding, W. Dunstan, Miss L. Greenwood, Miss E. M. Hellier, Miss L. A. Holbrook, Miss B. Huddleston, C. R. Humphrey, A. Martin, C. Matthews, H. Newman, Miss E. M. Pegler, W. E. Peters, A. Pickard, W. W. Powell, Miss M. G. Purves, G. Riddle, A. B. Riley, Miss L. Riley, Miss A. Smith, E. W. Thomas, W. T. Winkworth, J. West, J. Woolley.

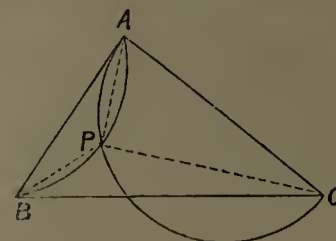
The Doreek Scholarship of £20 was awarded to Miss K. M. Shaw; and prizes of £10 for Theory and Practice of Education, £5 for Mathematics, and £5 for Natural Sciences, to Mr. J. D. Lynam.

MATHEMATICS.

11773. (H. J. WOODALL, A.R.C.S.)—Find the locus of the intersection of two equal circles which are described on two sides AB, AC of a triangle as chord.

Solution by J. C. St. CLAIR; Professor ZERR; and others.

Let the circles intersect in P. Then the angles PBA, PCA are either equal or supplementary, and if we take different positions of P, the pencils (B. APP'...) and (C. APP'...) are inversely similar. Therefore P lies on a rectangular hyperbola passing through ABC. If we make P coincide with B and C, it is evident that the tangents at those points make equal alternate angles (B~C) with BC, which is therefore a diameter. If AB = AC, the curve reduces to the line BC, and the perpendicular upon it through A.



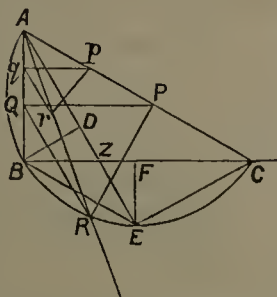
11503. (W. J. GREENSTREET, M.A.)—In a right-angled triangle ABC, draw Bl perpendicular to the hypotenuse AC, lm perpendicular to AB, mn perpendicular to AC, np perpendicular to AB, and so on. Find the sum of these perpendiculars in terms of the sides of the triangle. From a point P in AC, a perpendicular PQ is let fall on AB; if PQ² = AP · PC, find P. Draw BD and CE perpendicular to the bisector AZ of the angle A; show that the middle point of BC, B, D, E are concyclic, and that the area of the triangle BDE is equal to BD · AE.

Solution by H. J. WOODALL, A.R.C.S.

(1) $Bl = ac/b$, $lm = ac^2/b^2$, and so on; therefore sum

$$= ac/b \{1 + c/b + c^2/b^2 + \dots\} = ac/(b-c).$$

(2) Take any point p in AC , draw pq perpendicular to AB , pr perpendicular to AC , make $pr = pq$, join Ar , qr ; therefore Ar is locus of points r such that $pr = rq$. Next on AC , as diameter, describe circle ABC ; this cuts Ar at R . Draw the triangle PQR with sides parallel to sides of pqr . Then PQ is the required straight line. Because angle CRA is a right angle,* therefore $RP^2 = CP \cdot PA$; also, PQR is similar to pqr , therefore $PQ = PR$; therefore $PQ^2 = AP \cdot PC$ as required.
[The rest in Volume.]



11638. (H. BROCARD.)—Démontrer que le cercle de BROCARD et le premier cercle de LEMOINE sont concentriques.

Solution by J. DALE.

Let ABC be any triangle, O the circumcentre, K the symmedian point, EF' , $D'E$, $E'D$ respectively parallel to BC , CA , AB ; then the points D , D' , E , E' , F , F' are concyclic, and the circle passing through them is "le premier cercle de LEMOINE."

$AFKE'$ is a parallelogram; $\therefore EF$ is anti-parallel to BC , and $\angle AFE' = \angle ACB$; so also $\angle BF'D = \angle ACB$; therefore $E'F = DF'$; and similarly also $D'E$ is equal to $E'F$, or DF' .

Join AO , and AO is perpendicular $E'F$, and the perpendicular from O' (the middle point of OK) passes through the middle point of $E'F$, and is equal to $\frac{1}{2}OA$; similarly also the perpendiculars from O' on $D'E$ and DF' pass through their middle points and are equal to $\frac{1}{2}OA$. Therefore O' is the centre of the circle $DD'EE'FF'$, and by definition the BROCARD circle is the circle described on OK as diameter; therefore "le premier cercle de LEMOINE et le cercle de BROCARD sont concentriques."

11766. (EDITOR.)—If M , N , P , Q are the mid-points of the sides AB , BC , CD , DA of a square $ABCD$, prove that the intersections of the lines AN , BP , CQ , DM form a square which is one-fifth of the square $ABCD$.

Solution by W. J. CONSTABLE; J. DALE; and others.

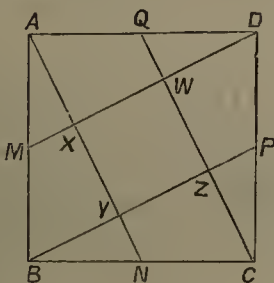
To show $XYZW$ is a square. MD , BP are parallel, for $MB =$ and parallel to DP . So AN , QC are parallel. Then $XYZW$ is a parallelogram.

Next, from equal triangles CQD , BPC , angle $ZPC = DQC =$ complement of ZCP ; therefore PZC is a right angle. Thus WZY is a right angle.

It may be shown that

$$BY = YZ = ZC.$$

Now square on $BC =$ sum of squares on BZ , ZC
= five times square on YZ .



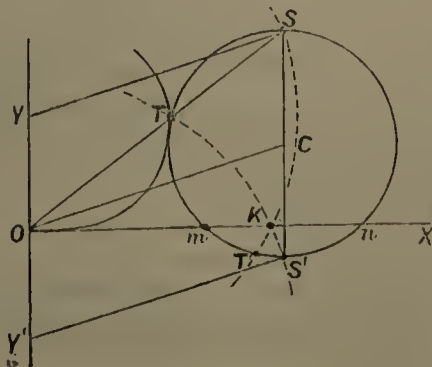
11730. (Professor BÉNÉZÉCH.)—Sur une droite OX on prend deux points variables M , N , tels que $OM \cdot ON = k^2$. Par M et N on fait passer une circonférence C de rayon donné R ; on trace ensuite une seconde circonférence tangente en O à OX et en T à la circonférence C . Lieu du point T .

Solution by J. C. ST. CLAIR; R. KNOWLES, B.A.; and others.

Let C be the centre of any circle through m , n , and let $(OK)^2 = k^2$.

Inverting from O with radius OK , the circle C is unchanged, and the circle touching it at T becomes the tangent at S parallel to OX . On the perpendicular at O take $OY = OY' = CS$. Then, since $(OC)^2 = (OK)^2 + (CS)^2$, the sides of the parallelogram $YOC'S$ are invariable, and the locus of S is a circle, centre Y and radius $OC = YK$.

[The rest in Volume.]



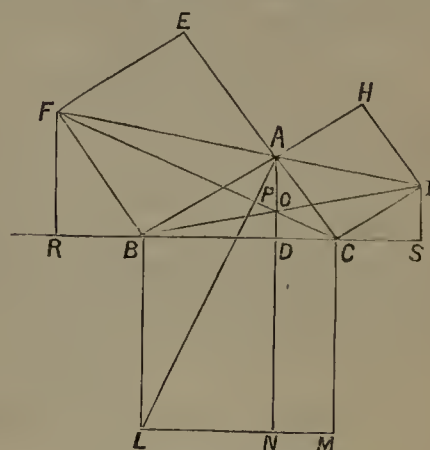
11661. (Professor VAN AUBEL.)—Sean $AEFB$, $AHIC$ los cuadrados construídos sobre los lados del ángulo recto de un triángulo ABC , rectángulo en A ; O el punto de intersección de las rectas CF , BI ; AOD la perpendicular bajada desde el vértice A sobre BC . Demostrar que
(1) $1/AO = 1/AD + 1/BC$; (2) $AB \cdot FC \cdot IO = AC \cdot FO \cdot IB$;
(3) $IO/OB = (AB + AC) AC/AB^2$; (4) $FO/OC = (AB + AC) AB/AC^2$.

Solution by J. DALE, M.A.; R. F. DAVIS, M.A.; and others.

(1) Construct the figure as directed; produce AD to meet the opposite side of the square on BC in N . Join AL ; draw FAI . Then, from similar triangles, AP can be proved perpendicular to FC ; hence $PLNO$ is inscriptible in a circle, and

$$AO \cdot AN = AP \cdot AL = AP \cdot CF = 2\Delta ACF = 2\Delta ABC = AD \cdot BC;$$

$$\therefore \frac{1}{AO} = \frac{AN}{BC \cdot AD} = \frac{DN + AD}{BC \cdot AD} = \frac{BC + AD}{BC \cdot AD} = \frac{1}{AD} + \frac{1}{BC}.$$



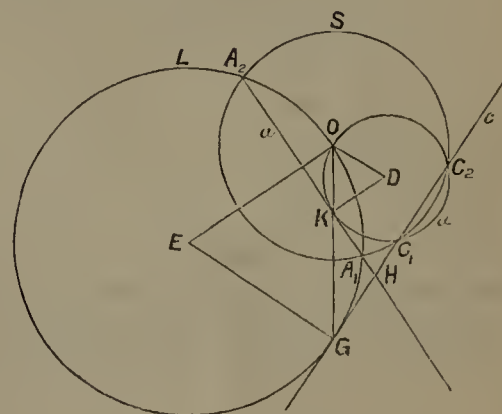
[The rest in Volume.]

11707. (A. E. JOLLIFFE.)—From two points B , C , tangents are drawn to a conic S , and these four tangents, together with the polars of B and C with respect to S , all touch a conic α . Similarly the pairs of points CA , AB determine the conics β and γ respectively. Prove, by pure geometry, that, if A lie on α , then B lies on β , and C on γ .

Solution by H. W. CURJEL, B.A.

Reciprocate the figure so that the tangents to S from B become the circles; then B becomes b , the line at infinity, and α and γ become circles. Let A, C become the straight lines a, c .

In the reciprocated figure, let O be the centre of the circle S (pole of b). Let S cut c in C_1C_2 and a in A_1A_2 . Then α is the circle OC_1C_2 , and evidently passes through the pole of C_1C_2 ; let D be its centre, and let it touch a in K . Let a cut c in H . Join OK , cutting c in G .



[The rest in Volume.]

9230. (Professor HAUGHTON, F.R.S.)—Prove the following equation in Thermodynamics, and apply it to the subjoined example:—

$$JdQ = dU + pdv,$$

J = Joule's coefficient; Q = Quantity of heat; p = External pressure; v = Volume; U = Internal work.

Example.—A lead bullet strikes an iron target with a velocity of 1000 feet per second: find how much the temperature of the bullet rises, on the supposition that the target is perfectly rigid, the specific heat of lead being 0.031; and explain the extraordinary result at which you arrive.

Solution by H. J. WOODALL, A.R.C.S.

The whole quantity of work which disappears as one form of energy will reappear as another form, probably heat.

JdQ is the work put in, and equals that of the bullet moving at 1000 feet per second = $\frac{1}{2}mv^2 = 500,000$ m ft. lbs.; part, dU , goes to raising the temperature of the bullet; the rest, pdv , goes to increasing the volume of the bullet (included in the dU will be the heat required to vaporize the lead). $\therefore JdQ = dU + pdv$. [The rest in Volume.]

11700. (Professor BÉNÉZÉCH.)—Soient O , O_a , O_b , O_c les centres des cercles inscrits et exinscrits d'un triangle ABC , rectangle en A . Si D est le milieu de l'hypoténuse, démontrer que $DO^2 + DO_a^2 = DO_b^2 + DO_c^2$.

Solution by Rev. D. THOMAS, M.A.; C. MORGAN, M.A.; and others.

It is known that

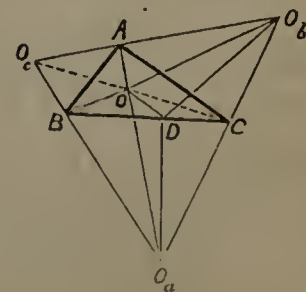
$$DO^2 = R^2 - 2Rr, \quad DO_a^2 = R^2 + 2Rr_a,$$

$$DO_b^2 = R^2 + 2Rr_b, \quad DO_c^2 = R^2 + 2Rr_c,$$

$$\text{and} \quad r_a = s, \quad r = s - a, \\ r_b = s(s-a)/(s-b), \quad r_c = s(s-a)/(s-c);$$

$$\text{therefore} \quad r_b + r_c = a = r_a - r,$$

and the above equality follows.



11522. (Professor MANNHEIM.)—Soit ABCD un parallélogramme articulé. Le sommet A est fixe, et les côtés AB, AD tournent autour de A d'angles égaux en sens inverses. Démontrer que le point C décrit une ellipse.

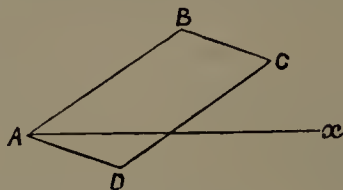
Solution by H. W. CURJEL, B.A.; Prof. RADIKANSHUAN; and others.

Taking A as origin, and the position of AB when $\angle BAD$ is zero as axis of x , let $AB = a$, $AD = b$, $(x, y) =$ coordinates of C, and $\angle BAx = \theta$; then

$$x = a \cos \theta + b \cos \theta,$$

$$y = a \sin \theta - b \sin \theta;$$

hence $\left(\frac{x}{a+b}\right)^2 + \left(\frac{y}{a-b}\right)^2 = 1$, and the locus of C is an ellipse.



11639. (MORGAN BRIERLEY.)—Let CD be the diameter of a circle of centre O, AB a chord at right angles to CD, the point of intersection being M: on OM draw another circle, and from any point in its circumference draw a tangent TE to a point in the circumference of the outer circle, from which inflect lines to A and B; then prove that

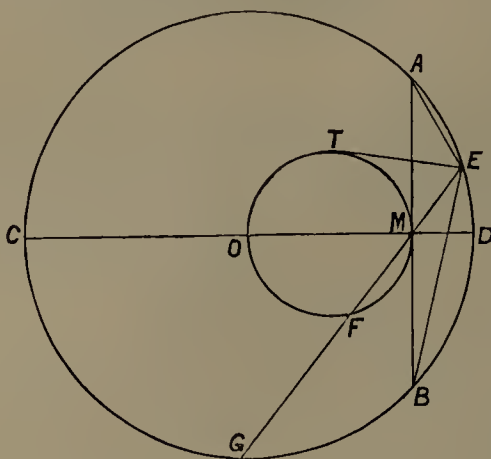
$$AE^2 + BE^2 = 4ET^2.$$

Solution by T. SAVAGE; H. W. CURJEL, B.A.; and others.

Produce EM to meet the circles OTM, ABC in F and G. Then OF is perpendicular to EG; therefore

$$GF = FE.$$

$$\begin{aligned} AE^2 + BE^2 &= 2BM^2 + 2EM^2 \\ &= 2EM \cdot MG + 2EM^2 \\ &= 2EG \cdot EM \\ &= 4EF \cdot EM \\ &= 4ET^2. \end{aligned}$$



8632. (Professor HAUGHTON, F.R.S.)—ROSETTI's formula for radiation is $y = aT^2(T - \theta) - b(T - \theta)$, where $y =$ Thermal effect on galvanometer, $T =$ absolute temperature of the hotter body, $\theta =$ absolute temperature of the colder body, a, b , constants to be found. Determine a and b from the first two of the following experiments, and from them calculate for comparison with the third experiment:—

No.	$T - \theta$	Galvanometer.	Surrounding temperature.
1	172.8° C.	116.7	
2	232.8 „	204.0	$= 23.8^\circ \text{C.}$
3	272.8 „	283.5	

Solution by H. J. WOODALL, A.R.C.S.

Since $y = aT^2(T - \theta) - b(T - \theta)$, therefore $y/(T - \theta) = aT^2 - b$.

$$\begin{aligned} (1) \quad 116.7/172.8 &= .675 = a(172.8 + 23.8 + 273.4)^2 - b \\ &= a \times 470^2 - b; \\ (2) \quad 204.0/232.8 &= .876 = a \times 530^2 - b; \\ (3) \quad 283.5/272.8 &= 1.041 = a \times 570^2 - b. \end{aligned} \quad [\text{The rest in Vol.}]$$

11732. (Professor LUCAS.)—Le produit des 1000 premiers nombres est terminé par 249 zéros.

Solution by J. C. ST. CLAIR, D. BIDDLE, and others.

The number of zeros is evidently the highest power of 5 contained in the product, and this is the sum of the quotients obtained by dividing 1000 by 5, 5², 5³, 5⁴, &c. The result is

$$200 + 40 + 8 + 1 = 249.$$

[The product of the first thousand numbers is thus seen to have 250 final zeros less 1. In the case of the first million there are 250,000 less 2, and in the case of the first billion, 250,000,000,000 less 3.]

11605. (R. CHARTRES.)—If P be a point within the triangle ABC, whose centroid is G, and if PA, PB, PC be denoted by p, q, r , and a^2, b^2, c^2 by α, β, γ , find (1) P when $\frac{p-q}{\beta-\alpha} = \frac{q-r}{\gamma-\beta} = \frac{r-p}{\alpha-\gamma} = a$ maximum; (2) show that $(p+q+r)(\alpha+\beta+\gamma) = \frac{\alpha^3+\beta^3+\gamma^3-3\alpha\beta\gamma}{p^3+q^3+r^3-3pqr}$; also (3) find the locus of P if A moves on a curve; (4) and the locus of A if

$$2\sum(PA^2) - 3\sum(GA^2) = a \text{ constant.}$$

Solution by the PROPOSER.

Let P be Fermat's point, then (1)

$$b^2 - c^2 = (p^2 + r^2 + pr) - (p^2 + q^2 + pq) \\ = (r - q)(p + q + r),$$

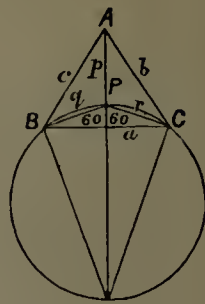
$$\therefore \frac{r-q}{\beta-\gamma} = \frac{1}{p+q+r} = a \text{ maximum.}$$

(2) By proportion,

$$\frac{(r-q)^2 + (q-p)^2 + (p-r)^2}{(\beta-\gamma)^2 + (\alpha-\beta)^2 + (\gamma-\alpha)^2} = \frac{1}{(p+q+r)^2},$$

which is (2).

[The rest in Volume.]



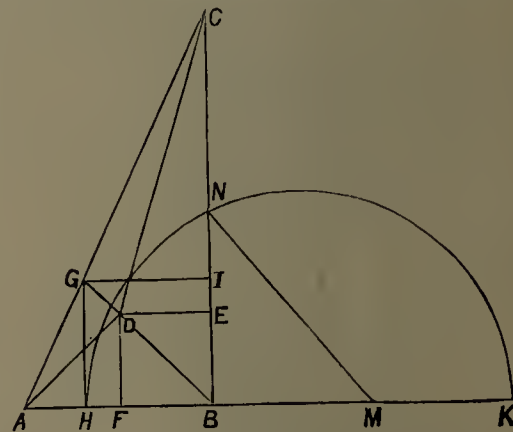
11741. (I. ARNOLD.)—Describe a square in a right-angled triangle having one angle of the square coincident with the right angle of the triangle, and such that the triangle formed by joining the extremities of the hypotenuse with the adjacent angle of the square shall be equal to the square.

Solution by the PROPOSER; C. BICKERDIKE; and others.

Let ABC be the given triangle, the angle B being a right-angle. Draw BG bisecting the angle B. Draw GH, GI perpendiculars on AB and BC. Produce AB and make

$$BK = \frac{1}{2}(AB + BC);$$

and on HK describe a semicircle cutting CB in N. Bisect BK in M, and join NM, and from M as centre, with MN as radius, describe an arc cutting BA in F; BF is the side of the required square.



[The rest in Volume.]

11765. (Professor NILKANTHA SARKAR, M.A.)—Soient AB, BC, CD trois côtés consécutifs d'un polygone régulier, de centre O, et E le point d'intersection de AB et CD. Démontrer que les quatre points A, E, C, O sont sur une circonférence.

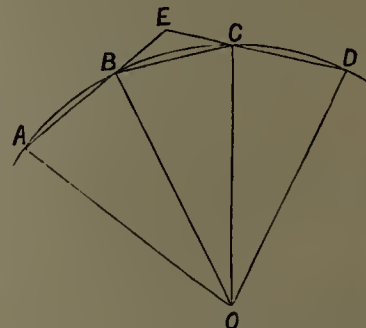
Solution by W. J. GREENSTREET, M.A.;

H. W. CURJEL, B.A.; and others.

The angle BAO evidently

$$= \text{angle OCD};$$

therefore A, O, C, E are concyclic.



11318. (C. MORGAN, R.N.)—In finding the longitude by lunar observation, if a, a' are the apparent altitudes of the observed body and the moon, d the apparent distance, and x, y the corrections in altitude: show that an approximate correction (additive or subtractive) to be applied to the apparent distance to obtain the true is

$$\sin a' \{x \sec a \csc d \mp y \sec a' \cot d\} \pm \sin a \{y \sec a' \csc d \mp x \sec a \cot d\}.$$

Solution by the PROPOSER.

Let SM be the true lunar distance, M being the moon and S the body. Let sm be the apparent distance.

Draw SX, MY, arcs of great circles perpendicular to sm ; then correction to apparent distance is approximately

$$sX \pm mY = x \cos SsX \pm y \cos Mmy$$

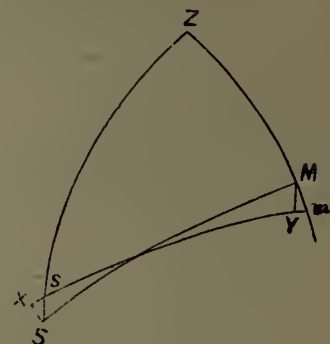
$$= x \frac{\cos Zm - \cos Zs \cos d}{\sin Zs \sin d}$$

$$\pm y \frac{\cos Zs - \cos Zm \cos d}{\sin Zm \sin d}$$

$$= x(\sin a' \sec a \csc d - \tan a \cot d)$$

$$\pm y(\sin a \sec a' \csc d - \tan a' \cot d),$$

which gives the stated result, the correction being additive or subtractive according to the value of the angles at s and m , and is easily seen from a figure.



11554. (Professor MANNHEIM.)—Deux circonférences Δ, Δ' se touchent au point A; deux droites rectangulaires rencontrent ces circonférences respectivement aux points B, C; B', C'. Démontrer que le somme des angles aigus formés par les droites BAB', CAC' est égale à un angle droit.

$$\begin{aligned}
& (b-c)(b-d)(c-d)(x-b)(x-c)(x-d)(a^3+pa^2+qa+r) \\
& - (c-d)(c-a)(d-a)(x-c)(x-d)(x-a)(b^3+pb^2+qb+r) \\
& + (d-a)(d-b)(a-b)(x-d)(x-a)(x-b)(c^3+pc^2+qc+r) \\
& - (a-b)(a-c)(b-c)(x-a)(x-b)(x-c)(d^3+pd^2+qd+r) \\
= & (x^3+px^2+qx+r)(a-b)(a-c)(a-d)(b-c)(b-d)(c-d).
\end{aligned}$$

11850. (BELLE EASTON, B.Sc.)—The weight of a common steelyard is Q , and the distance of its fulcrum from the point from which the weight hangs is a when the instrument is in perfect adjustment. The fulcrum is displaced to a distance $a + a$ from this end: show that the correction to be applied to give the true weight of a body which in the imperfect instrument appears to weigh W , is $(W + P + Q) \{a/(a + a)\}$, P being the movable weight.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a *separate* paper (otherwise, when used for printing, the Editor has the labour of entirely *re-writing* such articles); (b) to make their Solutions as short as possible; (c) to send all Questions *early in the month*, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to *prepay* the postage in full; and (f) to send all communications to

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NOTICE.—Volume LVII. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, FRANCIS HODGSON, 89 Farringdon Street, E.C. Price, to Subscribers, 5s.; to Non-Subscribers, 6s. 6d.

LONDON MATHEMATICAL SOCIETY.

Thursday, January 12th.—Mr. A. B. Kempe, F.R.S., President, in the chair. Mr. Pat Doyle, C.E., Editor of *Indian Engineering*, Calcutta, was elected a member, and Mr. W. J. Greenstreet, M.A., was admitted into the Society.

The following communications were made:—

"On the application of Clifford's Graphs to ordinary Binary Quantities: 2nd Part, Seminvariants," the President (Prof. E. B. Elliott, F.R.S., in the chair).

"On the Evaluation of a certain Surface-integral and its application to the Expansion of the Potential of Ellipsoids in Series," Dr. Hobson.

Mr. A. E. H. Love, M.A., made a brief statement on "The Vibrations of an Elastic Circular Ring."

Messrs. Larmor, Forsyth, Baker, and Walker also took part in the discussions on the papers.

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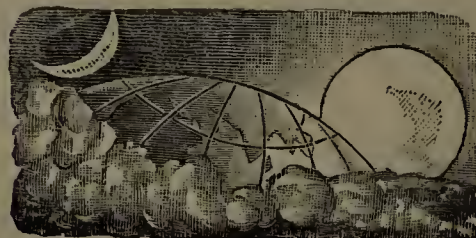
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h. = History.
heb. = Hebrew.
i. = Italian.

l. = Latin.
m. = Mechanics.
ms. = Mensuration.
mu. = Music.
nat. = Natural History.

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Court, S. E. Leylands School, Hornsea.
Huxley, J. W. Norton College, Luton.
Smith, L. W. The Collegiate School, Grimsby.
Banks, G. H. Bourne Coll., Quinton, Birmingham.
Bywater, J. Lucton School, Herefordshire.
Coleman, J. J. Bishop's Stortford Collegiate S.
Fletcher, O. Commercial College, York.
James, W. A. Wilsford House School, Devizes.
Kyffin, A. E. Parmiter's Foundation School, N. E.
Nicholls, P. The School, Tavistock.
Oung, M. B. Private tuition.
Simpson, H. F. d. Sidcot School, Weston-super-Mare.
Waring, T. Catholic Coll. Inst., Manchester.
Cogman, W. F. Longton Endowed School, Staffs.
Dennis, H. Commercial School, Bognor.
Drower, E. M. DeGresley Lodge, Southsea.
Eyre, W. Retford Grammar School.
Green, F. H. Sidcot School, Weston-super-Mare.
Parker, C. M. Anerley College, S. E.
Tonkin, C. H. Brean Villa S., Weston-super-Mare.
Williams, R. Dolgellay Grammar School.
Black, J. S. St. John's College, Green Lanes, N.
Bryan, J. L. Kurnella, Bournemouth.
Firth, N. W. Finsbury Park College, N.

BOYS, SECOND CLASS—Continued.

May, C. A. J.	Parniter's Foundation School, N.E.	Wood, R.	Horsham College.	Jenner, R. H.	Uckfield Grammar School.
Powicke, F. M.	Claremont College, Blackpool.	Beken, P. K.	Vermont College, Clapton.	Letts, L. R.	The High School, Hastings.
Rittenberg, M. M.	Beaufort College, St. Leonards.	Bostock, J. S.	Lancing College, Shoreham.	McQueen, R. M.	The Downs School, Clifton.
Bruce, R. E.	Private tuition.	Sharpe, R. R.	Blundell's School, Tiverton.	Pitt, F. H.	Epsom College.
Chubb, S. R.	Ludlow Grammar School.	Barritt, H. K.	Friends' School, Saffron Walden.	Richardson, V. W.	Cathedral Choir School, Ripon.
Emptage, S. H.	Cliftonville College, Margate.	Hamond, C. S.	Belle Vue House School, Norwich.	Southan, P.	Private tuition.
Jarvis, F. T.	Guildhall Mid. S., Bury St. Edmunds.	Hole, J.	Grosvenor School, Bath.	Thomas, W. P.	Shrewsbury High School.
Mannion, T.	Catholic Coll. Inst., Manchester.	Holland, W. H.	Margate College.	Vine, E. F.	Boys' Collegiate School, Aldershot.
Mudie, H. B.	Prætor House S., Folkestone.	Leeson, A. St. J.	Warrington School.	White, T. B.	Southampton Boys' College.
Waite, H. B.	Brooklyn House S., Dawlish.	Mills, T. C.	King Edward VI. S., Louth, Lincs.	Williams, J. P. (II.)	Lewis' School, Gelligaer.
Bartholomew, F. W. bk.	Noncon. Gram. S., Bp. Stortford.	Richardson, C. G.	Parniter's Foundation School, N.E.	Bradburn, J. G.	The Grammar School, Eccles.
Hague, W. A.	Farnworth Grammar School.	Ainseon, J.	Hindley Grammar School, Wigan.	Cox, K.	Rose Hill, High School, Bowdon.
Hammond, C. A.	Blundell's School, Tiverton.	Ashley, J. W.	Farnworth Grammar School.	Jackson, W.	Horsham College.
Long, O.	Lewis' School, Gelligaer.	Brumwell, B. H.	Boys' Collegiate School, Aldershot.	Jennings, E. G.	Balham School.
Miller, E. A.	Gravesend Middle Class School.	Daft, H. G.	Retford Grammar School.	Outred, C. D.	South Hackney High School, N.E.
Owen, J. H.	Shrewsbury College.	Goldsack, W. G.	Balham School.	Price, W. G.	St. Kenelm's Coll., Cowley, Oxford.
Rowe, E. P.	Independent College, Taunton.	Howlett, J.	The Grammar School, Bristol.	Smith, J. H. A.	New College, Margate.
Shaw, W. B.	Paradise House, Stoke Newington.	Kelly, B. W.	Preliminary Medical College, E.C.	Spooner, W. C.	Wimborne Grammar School.
Lister, W.	The Grammar School, Bingley.	Matthews, T. R. C.	St. John's Choir School, Torquay.	Thirlwall, H. P.	Clyde House, Hereford.
Reyes, A.	sp. St. George's College, Eastbourne.	Rich, H.	Redland Hill House, Bristol.	Thomas, H.	Lewis' School, Gelligaer.
Ryall, R.	Stoke Public Higher S., Devonport.	Yglesias, J.	Clyde House, Hereford.	Tovue, D.	Epsom College.
Elliot, W. S.	Northgate Schools, Lincoln.	Ashdown, R. L.	Seaford College.	Winnett, H.	Herne House, Margate.
Greaves, F.	d. Bilton Grange School, Harrogate.	Forster, J. M.	The Crossley & Porter S., Halifax.	Abell, R. H.	Luton School, Herefordshire.
Hopkins, P. S.	Private tuition.	Gardner, H.	Commercial S., Stratford-on-Avon.	Allingham, F. E.	Arnold House, S., West Brighton.
Hudson, H. F.	Retford Grammar School.	Hood, T.	The Collegiate School, Grimsby.	Barter, A. W.	Redcliffe Collegiate S., Bristol.
Nattle, H. F.	The School, Tavistock.	Houlson, A.	Lewis' School, Gelligaer.	Bastin, J. H.	Paradise House, Stoke Newington.
Thomassen, W. J. M.	Sidcot School, Weston-super-Mare.	Impey, G. D.	Sidcot School, Weston-super-Mare.	Boden, T. H.	Mercers' School, E.C.
Tripp, B. H. H.	De Aston School, Market Rasen.	Stansfield, R.	Hipperholme Grammar School.	Crill, S. G.	St. James' Collegiate S., Jersey.
Turner, J. T.	Parniter's Foundation School, N.E.	Barton, A. L.	Stoke Newington Grammar School.	Croft, W.	Milton College, Ullesthorpe.
Allen, H. T.	bk. Cavendish School, Matlock Bank.	Bolton, E. L.	Finsbury Park College, N.	Harris, R. J.	Private tuition.
James, J. F. W.	bk. Holloway College, N.	Ellison, A. R.	Hoscote House School, West Kirby.	Horton, H. N.	Private tuition.
Wells, C. P.	Leylands School, Hornsea.	Hill, T. G.	St. Olave's Grammar School, S.E.	Jenkins, J.	Lewis' School, Gelligaer.
Asser, O. V.	Anerley College, S.E.	Kaye, A.	Bilton Grange School, Harrogate.	Trickett, W. R.	West Kent Grammar S., Brockley.
Bodman, A. J.	d. Bilton Grange School, Harrogate.	Lütticke, E. G. T.	7 Sussex Square, Brighton.	VanQuackebeke, G. F. M. d.	Prospect House S., Hythe.
Etheredge, H.	bk. Wilson College, Stamford Hill.	Main, E. W.	The Grammar School, S. Shields.	Buttress, L.	Retford Grammar School.
Gregory, R. P.	Fairleigh School, Weston-s.-Mare.	Miles, G. A.	West Brighton High School.	Brierley, J. D.	Royal Gram. S., Kirkby Lonsdale.
Hunt, W. T.	d. Sidcot School, Weston-super-Mare.	Padwick, V. O.	Hope House School, Southsea.	Davis, G. L. B.	Balham School.
Jones, H. J.	Dolgelley Grammar School.	Russell, W. M.	Kingswood School, Bath.	Fuller, H. A.	Horsham College.
Mignon, F. A. C.	Private tuition.	Smith, L. E. M.	Margate College.	Gemmell, C. A.	Boys' Collegiate S., Aldershot.
Nash, T. B.	h. The High School, Brentwood.	Tipping, H.	Margate School.	Hatfield, J.	Parniter's Foundation S., N.E.
Smith, P. L. J.	Ludlow Grammar School.	Worsell, W. M.	s. Boys' Public Day School, Bognor.	Jager, L. E.	Stoke Newington Grammar School.
Woolhouse, F.	Repton, Burton-on-Trent.	Hadfield, H.	Sutton Park School, Surrey.	Jollyman, H.	Finsbury Park College, N.
Curry, G. J.	Retford Grammar School.	Hicks, A. M.	Parniter's Foundation School, N.E.	Jones, E. S.	Hall Grammar School, Fishguard.
Davy, P. C. T.	Blundell's School, Tiverton.	Lockwood, G.	Southern College, Harrogate.	Lindsey, E. V.	The Grammar School, Portsmouth.
Palmer, W.	Crood's School, King's Lynn.	Morgan, D. L.	Heath Brow S., Hemel Hempstead.	Macklin, E.	Bournemouth Commercial School.
Tebay, F. H.	d. Battersea Grammar School, S.W.	Shoosmith, L. S.	Oundle School.	Phillips, N. R.	Mannam School, Plymouth.
Fortune, A.	Grammar School, Tadcaster.	Stocken, C. A.	The Crossley & Porter S., Halifax.	Symmond, O. S.	Dolgelley Grammar School.
Harrod, C. E.	Friends' School, Saffron Walden.	Bambrough, W. E.	Sidcot School, Weston-super-Mare.	Stewart, C. L.	Stanley House, Margate.
Mordaunt, T.	Brooklyn Villa, Sheffield.	Collingwood, C.	St. George's College, Wimbledon.	Wallis, J. B.	East Cliff House Gram. S., Margate.
Pocock, J. R.	Horsham College.	Grindon, W. R.	Brooklands School, Sale.	Webb, A. J.	High School, Bromley, Kent.
Pryce, L. N.	Brooklands School, Sale.	Haydon, S. C. B.	Highbury House S., St. Leonards.	Bennett, C. H.	Grammar School, Newton Abbot.
Smith, J. L.	Western College, Harrogate.	Houston, W. J.	Undercliffe Collegiate S., Ventnor.	Botting, T. T. F.	Castle School, Guildford.
Wallis, G. A.	German & French Coll., Waudsworth.	Keyworth, F. A.	Collegiate School, Morecombe.	Bryden, C. J.	Mercers' School, E.C.
Wilkins, E. B.	Leylands School, Hornsea.	Muter, A. H. M.	Private tuition.	Burn, F. W.	Argyle House School, Sunderland.
Davis, O. C. M.	Wingfield House, Dover.	Paterson, G.	St. Martin's Gram. S., Scarborough.	Carter, G.	Milton Villa School, Bexley Heath.
Lynn, T. H.	Highfield School, Chertsey.	Pither, J.	Loughton School.	Dixon, S.	Paradise House, Stoke Newington.
Marsh, C. A.	Paradise House, Stoke Newington.	Roberts, B. H. St. C.	Private tuition.	Dottridge, G.	Skelsmergh House S., Margate.
Patterson, J. B.	Taunton Trade S., Southampton.	Shadwell, P. O.	d. Polytechnic Intermediate S., W.	Row, C. M.	d. University College School, W.C.
Peck, J.	d. Barton School, Wisbech.	Welsh, G. H. R.	University College School, W.C.	Wagstaff, C. B.	Burgess Hill High School, Sussex.
Scorah, E. J.	Brooklyn Villa, Sheffield.	White, H.	Upperton College, Eastbourne.	Willmott, E.	Polytechnic Intermediate S., W.
Turnbull, F.	Vermont College, Clapton.	Wilson, F.	Wright's School, Faversham.	Wilson, H. P.	The Grammar School, Eccles.
Yuill, W. R.	d. Milton Villa S., Bexley Heath.	Bettison, F. C.	Parkgate Avenue School, Hull.	Boulton, H. B.	Milton College, Ullesthorpe.
Spencer, E. S.	Retford Grammar School.	Crewe, E. V. H.	Royal Gram. S., Kirkby Lonsdale.	Briggs, E. F. H.	University School, Stroud Green.
Alderson, R.	Newcastle-on-Tyne Modern School.	Colbourne, R. B.	Private tuition.	Davies, A. G. C.	Private tuition.
Cartwright, F. H.	Retford Grammar School.	Kinnear, A. W.	12 Wentworth Pl., N'castle-on-Tyne.	Davies, P. M.	d. Mt. Radford School, Exeter.
Frank, W. F.	Retford Grammar School.	Simms, G. N.	Private tuition.	Genders, P. R.	Middle Class School, Barnstaple.
Haywood, T.	Retford Grammar School.	Stickland, E. J.	Seaford College.	Hudson, A.	Catford Collegiate School, S.E.
Hooper, J. B.	Collegiate School, Bridgwater.	Wilson, E. H.	Northgate Schools, Lincoln.	Humphries, E. E.	Paignton School.
Daphne, F.	Highbury House S., St. Leonards.	Young, R.	Margate College.	Hollingdale, C.	Clytha College, Newport, Mon.
Eacott, R. G.	Retford Grammar School.	Benson, T. S.	The Crossley & Porter S., Halifax.	King, R. H.	Rhodes House School, Manchester.
Hayward, J. H.	Northgate Schools, Lincoln.	Edwards, C. R.	Gravesend Middle Class School.	Leech, E. C.	Redland Hill House, Bristol.
Jeaffresou, D.	Epsom College.	Freeman, P. J.	Castle School, Guildford.	Palmer, J. T. E.	Ludlow Grammar School.
Staple, J. H.	Kingston School, Yeovil.	Nicholls, H. K.	Emanuel S., Wandsworth Common.	Peake, F.	Bolton High School for Boys.
Thevenard, C. W.	Surrey House School, Margate.	Petersen, P. R.	Beverly House School, Barnes.	Snelgar, J.	Cleveland House S., Salisbury.
Whiting, E. M.	Clyde House, Hereford.	Richards, T. R.	Parniter's Foundation School, N.E.	Baker, H. B.	d. Ealing Dean College.
Wood, A. E. B.	Private tuition.	Wilkins, W. W.	Wilsford House School, Devizes.	Bellingham, C. N.	Sydenham College, S.E.
James, O. B.	Blundell's School, Tiverton.	Beer, W.	Oakhurst College, East Dulwich.	Chaffer, H.	Private tuition.
Keene, B.	Stoke Newington Grammar School.	Bray, R.	Harleigh House, Bodmin.	Coombe, D. P.	Mercers' School, E.C.
Mann, W. E.	St. Chad's College, Lowestoft.	Cato, C. S.	Private tuition.	Cox, F.	Fortescue College, Radstock, Bath.
Weaver, G. H.	Grange College, Leominster.	Da Costa, D.	Southgate College, N.	Denison, G. E.	Collegiate School, Morecombe.
Westaway, N. R.	Oakwood House School, Jersey.	Harper, H. J. S.	Parniter's Foundation School, N.E.	Evans, F. L.	Mercers' School, E.C.
Wright, T. J.	Oundle School.	Ince, P. C.	Parniter's Foundation School, N.E.	Maemillan, R. B.	d. Sidcot School, Weston-super-Mare.
Austwick, J. W.	Horsham College.	Jordan, F. W.	Queen's Park College, W.	Mills, G. H.	Elmfield College, York.
Brownscombe, A. bk.	Brunswick House, Maidstone.	Lewis, A. J.	Taunton Trade S., Southampton.	Newman, F. J.	Anerley College, S.E.
Michell, R.	Kelby College, Tavistock.	Maas, G. C.	Grammar School, Clacton-on-Sea.	Owens, L. A.	St. Asaph Grammar School.
Peto, R. H.	Eastcote, Hampton Wick.	White, H. E.	Private tuition.	Prichard, R.	Dolgelley Grammar School.
Speer, W. R.	Parniter's Foundation School, N.E.	Allingham, H. R.	Arnold House S., West Brighton.	Roach, F.	St. Elphin's, Westgate-on-Sea.
Bercy, C. W.	Hoscote House School, West Kirby.	Bingham, W. A.	Newark-on-Trent Gram. School.	Taylor, T.	Queen Mary's Lower S., Walsall.
Bywater, J.	Dudley Middle Class School.	Bucknall, G.	Catholic Coll. Inst., Manchester.	White, C. H.	Heston House School, Hounslow.
Collitt, W. S.	Cathedral Choir School, Ripon.	Chapman, S. C.	Private tuition.	Whitbridge, C.	Upton School, Slough.
Hall, J. A. N.	d. Kendrick Boys' School, Reading.	Cort, J. M.	Elmfield College, York.	Campbell, J. J.	Leylands School, Hornsea.
Hilliard, H. T.	Private tuition.	Marriott, R. W.	The Crossley & Porter S., Halifax.	Fenton, T. G.	Middleton School, Bognor.
Jollyman, W. H.	Finsbury Park College, N.	Musgrave, D.	Bickerton House School, Birkdale.	Gifford, J.	Pine House, Wincanton.
Shorland, G.	Lancing College, Shoreham.	Oddy, A. E.	Private tuition.	Gilbert, G. S.	Putney School.
Smith, E. P.	33, Alfred Place, W.C.	Stowell, F.	Undercliff Collegiate S., Ventnor.	Hawkins, P.	Priory House School, Bridlington.
Smith, J.	Claremont College, Blackpool.	Taylor, W.	Hingham Grammar S., Attlebro'.	Morris, A. C.	Clytha College, Newport, Mon.
Warren, G. H.	d. Ludlow Grammar School.	Thomlinson, M.	Burnside School, Ilkley.	Prentice, H. R.	Maida Vale School, W.
Barton, L. F.	Ocklynge House S., Eastbourne.	Savage, H. C. F.	d. Seaford College.	Saxelbye, H. L.	Hull and East Riding College.
Francis, S. L.	Battersea Grammar School, S.W.	Wilson, J. A.	Sandyford Acad., N'castle-on-Tyne.	Shaw, C. F. S.	Private tuition.
Medleycott, E. S.	Parniter's Foundation School, N.E.	Body, F. W.	Blundell's School, Tiverton.	Sugden, H.	Doneaster Grammar School.
Still, S. H.	Emwell House School, Warminster.	Calhoun, P. W. P.	Private tuition.	Barritt, J. W.	Friends' School, Saffron Walden.
Williams, A. H.	Mercers' School, E.C.	Cook, J. H.	Hoylake School, Cheshire.	Evans, T.	Grammar School, St. Clears.
Crabb, B.	Castle School, Guildford.	Cross, H. M.	Belle Vue House School, Norwich.	Fletcher, S. W.	Parniter's Foundation S., N.E.
Davies, G.	Lewis' School, Gelligaer.	Gough, J. C.	Clyde House, Hereford.	Harding, M. J.	Margate College.
De Hoghton, C.	Prætor House S., Folkestone.	Green, G. H.	Pine House, Wincanton.	Headland, A. S.	The Crossley & Porter S., Halifax.
Eagles, V. G.	Parniter's Foundation School, N.E.	Johnson, A.	Clytha College, Newport, Mon.	Henley, H. J.	Horsham College.
Holmes, A. E.	High School, Sutton, Surrey.	Mehrer, J. H.	Parniter's Foundation School, N.E.	Holyoake, J. B.	Ludlow Grammar School.
Isherwood, F.	Sidcot School, Weston-super-Mare.	Part, J. H.	The Avenue School, Leigh, Lanes.	Hutton, E. C. F.	Eastbourne Old School.
Meldrum, W. K.	Brooklands School, Sale.	Pawle, M. G.	Private tuition.	Mackay, J. W.	Berkeley School, Hull.
Pyke, G. T.	Clyde House, Hereford.	Powell, J.	Grammar School, Tadcaster.	Patterson, C. F.	Eliot Bank School, Forest Hill.
Robins, W.	Cliftonville College, Margate.	Bell, G. F.	d. Farnham Grammar School.	Rickard, C. R.	Blundell's School, Tiverton.
Walker, N. D.	Newcastle-on-Tyne Modern School.	Bennett, W. F.	Private tuition.	Rive, L.	St. James' Collegiate S., Jersey.
Walker, R.	Dean Close School, Cheltenham.	De Coteau, J. T.	Eliot Bank School, Forest Hill.	Sutton, R. N. D.	Middle Class S., Weston-s.-Mare.
		Hobbs, E. G.	Vermont College, Clapton.	Taylor, J. W.	Highbury House S., St. Leonards.

BOYS, SECOND CLASS—Continued.

Ashby, C. Private tuition.
Boniface, W. High School, Sutton, Surrey.
Downman, C. D. The Grange, Halstead.
Flint, A. J. B. Barton School, Wisbech.
Hudson, T. Western College, Harrogate.
Jackson, H. The Grammar School, Eccles.
Jaffé, D. Beaufort College, St. Leonards.
Johnson, P. V. Irvine House, Derby.
Martin, G. F. Thistleboon House S., Mumbles.
May, H. N. The Grange, Halstead.
Milne, D. B. Henley House S., St. John's Wood.
Muir, A. W. Hoscothe House S., West Kirby.
Stembridge, H. C. Albemarle College, Penge.
Sutcliffe, H. T. Dudley Grammar School.
Wooster, B. E. Royal Grammar S., High Wycombe.

SECOND CLASS.—2ND DIVISION.

Allen, J. H. Grammar School, Tadcaster.
Arnold, O. Polytechnic Intermediate S., W.
Ballard, W. G. Kurnella, Bournemouth.
Beswick, R. Bourne Coll., Quinton, Birmingham.
Birkett, F. Retford Grammar School.
Breare, R. A. Royal Gram. S., Kirkby Lonsdale.
Cavenagh, H. Ellesmere School, Harrogate.
Coleman, F. Epsom College.
Dodwell, H. M. Retford Grammar School.
Feaver, S. R. Highbury House S., St. Leonards.
Graves, G. H. F. Private tuition.
Higgin, R. M. Paradise House, Stoke Newington.
Hopwood, P. T. Anerley College, S.E.
Mounsey, R. E. Private tuition.
Price, T. Lewis' School, Gelligaer.
Schmidt, W. J. Cliftonville College, Margate.
Simpson, B. W. Herne House, Margate.
Smith, B. Private tuition.
Walsh, H. C. Margate College.
Williams, L. Sydenham College, S.E.
Armitage, C. J. Private tuition.
Atkinson, G. J. Kent College, Canterbury.
Attwell, E. G. d. Parmiter's Foundation School, N.E.
Bentall, R. H. Farnham Grammar School.
Bishop, H. O. International Univ. College, N.W.
Dinn, A. L. Hoscothe House S., West Kirby.
Dougharty, H. Castle Hill School, Ealing.
Evers, T. Salway House Collegiate S., Leyton.
Fowler, A. Goole Grammar School.
Gardiner, B. The Grammar School, Eccles.
Hayes, J. A. Highfield School, Chertsey.
Jackman, G. E. Undercliff Collegiate S., Ventnor.
Kenway, T. L. Sidcot School, Weston-super-Mare.
Lysaght, J. A. C. Snettisham School, King's Lynn.
Maggs, L. B. Grammar School, Newton Abbot.
Moore, R. Wright's School, Faversham.
Neat, W. L. Lewis' School, Gelligaer.
Peake, A. J. Seaford College.
Stilwell, H. F. Private tuition.
Whitaker, L. E. Lancing College, Shoreham.
Willing, J. Brooklands School, Sale.
Ashill, R. J. Morgan's Endowed S., Bridgwater.
Backer, C. W. P. Buxton College, Stratford.
Bailey, C. P. Llandndno College.
Brook-Greaves, R. d. The Mount, Sheffield.
Danes, T. Brunswick House, Maidstone.
Gask, R. N. The Crossley & Porter S., Halifax.
Gordon, W. H. Vermont College, Clapton.
Hughes, D. M. Private tuition.
Hutchinson, C. Hull and East Riding College.
Johneline, E. W. d. Norton College, Luton.
Kirschstein, L. G. ger. German & French Coll., Wandsworth.
Law, H. S. Vermont College, Clapton.
Newton, W. H. St. Martin's Gram. S., Scarborough.
Pearce, F. E. Rose Hill High School, Bowdon.
Powell, W. C. Kent College, Canterbury.
Sandilands, H. High School, Fairfield, Liverpool.
Vinall, L. G. Grammar School, Lewes.
Welch, A. J. F. Grammar School, Newton Abbot.
Bonser, B. T. Paradise House, Stoke Newington.
Brown, H. S. Parmiter's Foundation School, N.E.
Burr, T. A. Vermont College, Clapton.
Falder, H. W. Parmiter's Foundation School, N.E.
Glasgow, H. B. Western College, Harrogate.
Haram, B. B. Ashton House School, Birkenhead.
Holford, S. J. Epsom College.
Jarvis, R. Mannamoad School, Plymouth.
Neck, A. H. Harleigh House, Bodmin.
Shingleton-Smith, H. M. Blundell's School, Tiverton.
Stolterfoth, C. S. Rossall School.
Tyte, W. L. Kingston School, Yeovil.
Williamson, A. Private tuition.
Arber, P. H. Polytechnic Intermediate S., W.
Atkins, F. B. Hope House School, Southsea.
Buxton, B. J. W. Private tuition.
Cohen, L. Argyle House School, Sunderland.
Cusins, A. F. Praetoria House S., Folkestone.
Daniel, W. W. Nevill House, Abergavenny.
Denny, E. B. Highbury House S., St. Leonards.
Fowke, C. W. Private tuition.
Ker, W. Snettisham School, King's Lynn.
Marshall, W. Elmfield College, York.
Mossop, H. E. Middle Class S., Weston-s.-Mare.
Pettigrew, M. G. Middle Class School, Sheffield.
Read, B. H. "College," Uckfield.
Shea, W. A. L. West Brighton Grammar School.
Stevens, J. C. Farnham Grammar School.
Stones, H. Wellington School, Heaton Chapel.
Tranter, W. J. B. Highfield School, Chertsey.
Trill, S. W. Parmiter's Foundation School, N.E.
White, P. B. High School, Fairfield, Liverpool.
Barkshire, C. Private tuition.
Clapp, F. C. Rochester Cathedral School.
Goulding, F. Kendrick Boys' School, Reading.

Litchfield, E. L. Herne House, Margate.
O'Hea, J. The Grammar School, Portsmouth.
Poupard, A. d. Skelsmergh House School, Margate.
Rhodes, J. The Crossley & Porter S., Halifax.
Sharp, R. H. Anerley College, S.E.
Smith, S. Skelsmergh House School, Margate.
Walker, E. A. Private tuition.
Waters, W. P. Margate College.
West, D. Independent College, Taunton.
Woollerton, H. W. W. Bonrne Coll., Quinton, Birmingham.
Benson, J. Royal Gram. S., Kirkby Lonsdale.
Brooker, W. H. St. Helen's College, Southsea.
Bruce, H. The Modern School, Thirsk.
Coveney, S. L. Prospect House School, Dover.
Dalton, W. Ballham School.
Davis, G. H. West Brighton High School.
Ewer, C. R. F. d. Commercial School, Bognor.
Fishwick, F. W. Herne House, Margate.
Harris, B. J. L. International Univ. College, N.W.
Jacobs, J. Warlingham School.
Jessop, C. A. Gunnersbury College.
Johnson, W. Private tuition.
Kelly, C. J. Arnold House S., West Brighton.
Kneebone, C. J. St. Austell School.
Lewis, A. St. Martin's Gram. S., Scarborough.
Melhuish, H. L. The Philological School, Southsea.
Mitchell, A. E. bk. Scaford College.
Morris, W. M. J. Dolgelly Grammar School.
Partridge, V. S. Norton College, Luton.
Powell, H. Ellesmere School, Harrogate.
Sheers, T. A. H. Burnley Grammar School.
Watkins, A. G. Middle Class School, Brecon.
Whitaker, J. S. Western College, Harrogate.
Awmack, S. H. Sidecot School, Weston-super-Mare.
Case, M. E. Borden School, Sittingbourne.
Dearling, W. E. Apsley House School, Margate.
Denning, H. Redland Hill House, Bristol.
Haines, A. H. Harvey Grammar S., Folkestone.
Lee, P. J. S. Morgan's Endowed S., Bridgwater.
Lenton, G. Kent College, Canterbury.
Lewis, W. N. Lewis' School, Gelligaer.
Miles, J. H. Private tuition.
Nash, A. C. Farnham Grammar School.
Nutter, W. J. Private tuition.
Owens, S. G. Farnworth Grammar School.
Pearson, T. University School, Hastings.
Wilmore, W. Private tuition.
Wilson, G. M. Doncaster Grammar School.
Younger, R. Rose Hill High School, Bowdon.
Baker, T. W. Blundell's School, Tiverton.
Best, C. E. Malden College, New Malden.
Cardell, J. R. Private tuition.
Davis, P. J. Apsley House School, Margate.
Ellice, H. The Grammar School, Midhurst.
Jordan, H. Wright's School, Faversham.
King, R. G. Vermont College, Clapton.
Lewis, G. J. Private tuition.
Murphy, W. S. Emanuel S., Wandsworth Common.
Spackman, F. A. Cathedral Choir School, Ripon.
Bird, S. Leo House School, Margate.
Buttiant, J. H. Horsham College.
Cole, B. J. C. International Univ. College, N.W.
Comley, J. Commercial S., Barrow-in-Furness.
Cooper, H. Ousegate School, Selby.
Cornish, C. Collegiate School, Bridgwater.
Cowlin, E. Emanuel S., Wandsworth Common.
Donne, D. J. Highbury House S., St. Leonards.
Eastley, J. B. Paignton School.
Faulkner, E. O. Gravesend Proprietary School.
Gilbert, D. G. Eastbourne Old School.
Gulliver, C. S. Caversham School, Reading.
Hamilton, A. D. The High School, Brentwood.
Hibbert, W. Cambridge House School, Bradford.
Hollister, W. Queen's Park College, W.
Hosegood, T. H. Queen's College, Taunton.
Jeans, J. W. Mercers' School, E.C.
Langston, E. E. Kendrick Boys' School, Reading.
Merriman, G. F. d. Windermere Ho. S., Barnes Common.
Neame, H. B. Surrey House School, Margate.
Steele-Perkins, J. S. West Cliff House School, Dawlish.
Stoner, J. W. Private tuition.
Talbot, T. H. Private tuition.
Vickery, G. A. L. Sydenham College, S.E.
Webster, H. G. Private tuition.
Banks, C. G. The Modern School, Thirsk.
Camm, J. B. Retford Grammar School.
Crew, E. J. Wellingborough Grammar School.
Grierson, D. J. St. John's College, Green Lanes, N.
Igglesden, J. B. Uckfield Grammar School.
Jones, E. Hillsboro', Frodsham.
May, H. H. Surrey House School, Margate.
Robinson, T. Nonconform. Gram. S., Bp. Stortford.
Rudd, P. Hull and East Riding College.
Stowell, E. W. Nonconform. Gram. S., Bp. Stortford.
Vincent, J. W. Stoke Newington Grammar School.
Wilson, D. Wright's School, Faversham.
Avis, S. Norton College, Luton.
Blanchflower, J. C. E. Anglian S., Bury St. Edmunds.
Dixon, J. W. Tollington Park College, N.
Dyson, E. Thorne Grammar School.
Garrett, R. R. Henley House S., St. John's Wood.
Heather, J. B. Retford Grammar School.
Lewis, W. D. R. Lewis' School, Gelligaer.
Rugg, A. H. Kent College, Canterbury.
Shalders, C. M. Belle Vue House School, Norwich.
Wallace, W. H. Margate College.
Withers, W. G. St. George's College, Eastbourne.
Axtom, M. H. Enfield Grammar School.
Bell, P. H. Newton School, Rock Ferry.
Catley, C. Commercial College, York.
Cox, C. Shrewsbury College.

Eames, E. F. Friends' School, Saffron Walden.
Friend, H. G. P. Bournemouth Commercial School.
Leaning, A. Kent College, Canterbury.
Luck, S. G. Middleton School, Bognor.
Marshall, G. E. Retford Grammar School.
McLachlan, H. G. Caversham School, Reading.
Mills, L. H. B. 35 Surrey Street, Norwich.
Monkman, W. Commercial College, York.
Plevin, P. J. Brooklands School, Sale.
Riddall, S. G. High School, Sutton, Surrey.
Ridley, G. F. Warehousemen & Clerks' S., Purley.
Smallwood, R. A. Sydenham College, S.E.
Thompson, G. S. Commercial College, York.
Turner, G. H. Southolme School, Gainsborough.
Utting, H. E. Queen Mary's High School, Walsall.
Ansten, C. C. Edward VI. Gram. S., Southampton.
Forshaw, W. H. Retford Grammar School.
Grylls, P. G. Windermere Ho. S., Barnes Common.
Holyoak, F. C. Milton College, Ullesthorpe.
Leach, J. A. M. Upton School, Slough.
Moses, C. Southampton Boys' College.
Appleyard, G. Belgrave School, Scarborough.
Baggs, J. C. The Grammar School, Portsmouth.
Beveridge, H. W. Praetoria House S., Folkestone.
Dugdale, L. A. Winchester House, Bristol.
Francis, C. L. St. George's School, Bampton.
Hammerton, G. H. L. Middle Class School, Sheffield.
Harding, L. J. South Hackney High School, N.E.
Hibberd, F. J. Stoke Newington Grammar School.
Turner, A. G. Cleveland House School, Salisbury.
Weatherstone, H. West Kent Grammar S., Brockley.
Aust, W. T. Kendrick Boys' School, Reading.
Best, P. J. Malden College, New Malden.
Couchman, E. Nonconform. Gram. S., Bp. Stortford.
Farmer, E. P. Ludlow Grammar School.
Hays, F. H. Middleton School, Bognor.
Lang, F. Belle Vue House School, Norwich.
Leppard, W. Horsham College.
Milne, K. J. Henley House S., St. John's Wood.
Read, A. E. Parmiter's Foundation School, N.E.
Read, S. Anerley College, S.E.
Rowland, F. Private tuition.
Walton, W. E. Boys' Collegiate School, Aldershot.
Welman, R. G. St. Michael's College, Notting Hill.
White, P. Kent College, Canterbury.
Williams, A. E. Lewis' School, Gelligaer.
Beddow, H. J. Sutton Park School, Surrey.
Brinkworth, W. Henley House S., St. John's Wood.
Brown, B. A. Mile End House S., Portsmouth.
Clarke, C. The Grammar School, Eccles.
Harwood, J. W. Victoria College, Douglas, I. of M.
Howard, J. A. Waverley House School, Southport.
Matsuda, N. The Engadine, Torquay.
Miles, C. V. Norton College, Luton.
Perkins, A. Barton School, Wisbech.
Walters, W. G. Battersea Grammar School, S.W.
Wright, C. P. Park Hnrst School, Buxton.
Breakell, F. B. Hindley Grammar School.
Campbell, C. C. d. Clytha College, Newport, Mon.
Davis, E. E. Apsley House School, Margate.
Ford, R. V. The Grammar School, Portsmouth.
Griffith, G. R. Monson House, Ealing Dean.
Macshane, F. Middle Class School, Tavistock.
Price, C. T. Private tuition.
Price, J. C. 43 Maryon Road, Charlton.
Trussler, W. T. Enfield Grammar School.
Westcomb, G. H. Newton Terrace, Rochester.
Burman, W. E. Seaford College.
Casson, J. Western College, Harrogate.
Chambers, S. W. Retford Grammar School.
Dodd, W. S. High School, Monk Gate, York.
Foord, G. V. West Cliff School, Ramsgate.
Hawkins, F. J. Malden College, New Malden.
Hindle, C. C. Westfield School, Hungerford.
Howroyd, J. E. Bilton Grange School, Harrogate.
Leonard, W. H. Hull and East Riding College.
Lloyd, P. Waverley House School, Southport.
Lovegrove, L. Seaford College.
Reynell, A. C. Windermere House S., Barnes Com.
Robinson, W. Southern College, Harrogate.
Smith, H. L. Sutton Park School, Surrey.
Stowell, S. H. Nonconform. Gram. S., Bp. Stortford.
Tittford, W. R. East Cliff House Gram. S., Margate.
Turner, J. W. The Crossley & Porter S., Halifax.
Twort, F. W. Modern School, Woking.
Barrell, J. P. E. Anglian S., Bury St. Edmunds.
Ellis-Hughes, T. H. J. Grammar School, Clacton-on-Sea.
Hesilrige, C. Burnside School, Ilkley.
Holford, E. H. Park Hurst School, Buxton.
Hume, W. B. Camperdown School, Bournemouth.
Hunt, C. J. Middle Class S., Weston-s.-Mare.
Marwood, W. W. J. Clanghton Coll. S., Birkenhead.
Miller, W. A. Clapham Rise Collegiate School.
Parsons, G. Morgan's Endowed S., Bridgwater.
Pollock, D. Argyle House School, Sunderland.
Powell, E. J. Belle Vue House School, Norwich.
Roberts, C. Kent College, Canterbury.
Sorby, P. Ousegate School, Selby.
Carrel, F. J. Oxenford House School, Jersey.
Edwards, F. Horsham College.
Ellery, R. F. Mannamoad School, Plymouth.
Farr, A. E. Kent College, Canterbury.
George, J. A. Brooklyn Villa, Sheffield.
Greenwood, H. Goole Grammar School.
Howard, A. Boys' Collegiate School, Aldershot.
La Farge, D. N. Dane Hill School, Margate.
Lindsay, H. W. University School, Hastings.
Nicholson, L. Hart House School, Tregoney.
Shelton, H. L. Paradise House, Stoke Newington.
Thrupp, A. E. St. Leonard's Collegiate School.
Wilkinson, T. Retford Grammar School.

BOYS, SECOND CLASS—Continued.

Adeney, N. H. St. Leonards Collegiate School.
 Cooper, D. S. Margate College.
 Dallow, F. W. Clyde House, Hereford.
 Darby, C. E. Mercers' School, E.C.
 Hodgson, H. F. The High School, Brentwood.
 Hooper, A. C. Private tuition.
 Lupton, W. Park Hurst School, Buxton.
 Pears, W. C. Kent College, Canterbury.
 Percy, E. Snettisham School, King's Lynn.
 Pink, F. Hope House School, Southsea.
 Scott, E. J. Hillside Lodge, Blackheath.
 Turner, H. S. Private tuition.
 Watts, W. S. Ascham College, Clacton-on-Sea.
 Attlee, C. K. Herne House, Margate.
 Barlow, F. E. Farnworth Grammar School.
 Beverley, K. H. Lucton School, Herefordshire.
 Boulton, A. G. St. George's College, Eastbourne.
 Bramley, C. W. W. Rhodes House School, Manchester.
 Coghill, D. M. Ludlow Grammar School.
 Doggett, M. Surrey House School, Margate.
 Drake, G. H. Weymouth College.
 Fuller, H. V. Grammar School, Lewes.
 Hebert, W. Private tuition.
 Hudson, H. Catford Collegiate School, S.E.
 Macdonald, J. R. Henley House S., St. John's Wood.
 Murray, A. W. Epsom College.
 Norris, F. G. South Hackney College, N.E.
 Snell, J. H. Parc Bracket School, Camborne.
 Tongue, E. J. Eltham College, Kent.
 Tunstall, R. E. The Crossley & Porter S., Halifax.
 Ward, R. J. Sutton Park School, Surrey.
 Weinstock, S. Private tuition.
 West, H. Hall Gate School, Doncaster.
 Woods, H. E. Mercers' School, E.C.
 Amison, J. Longton Endowed School, Staffs.
 Beley, S. Herne House, Margate.
 Boddy, H. C. V. Rhodes House School, Manchester.
 Bond, W. J. Corsham School.
 Burnham, W. W. Highfield School, Chertsey.
 Caffyn, W. S. Grove House S., Tunbridge Wells.
 Comptou, L. S. 3 Chester Place, Plymouth.
 Fendick, W. R. Margate College.
 Francis, W. The Crossley & Porter S., Halifax.
 Greenway, E. H. R. Farnham Grammar School.
 Johnson, J. H. Parmiter's Foundation School, N.E.
 Lord, P. C. The Grammar School, Eccles.
 Mills, J. W. Horsham College.
 Robertson, J. S. Westbourne Road School, Sheffield.
 Smith, J. T. Gainford School, Darlington.
 Walker, T. W. Bourne Coll., Quinton, Birmingham.
 Westlake, L. L. Clewer House School, Windsor.
 Berncastle, H. M. Private tuition.
 Cave, A. O. d. Caversham School, Reading.
 Ekins, C. M. Private tuition.
 Gath, J. H. Hipperholme Grammar School.
 Jenkins, D. J. High School, Stockton-on-Tees.
 Josling, H. Wimbledon Collegiate School.
 Kidd, D. B. Middle Class S., Weston-s.-Mare.
 Knight, C. T. Cambridge House School, Margate.
 Mills, H. Longton Endowed School, Staffs.
 Milnthorpe, R. King James' Gram. S., Knaresboro'.
 Russell, S. W. Fairleigh School, Weston-s.-Mare.
 Shaw, G. A. Mercers' School, E.C.
 Stollard, F. S. The College, East Acton.
 Weston, S. L. Wingfield House, Dover.
 Silk, G. B. Oakes Institute, Liverpool.
 Smith, J. B. Friends' School, Saffron Walden.
 Aish, C. Lewis' School, Gelligaer.
 Barratt, E. C. Cliftonville College, Margate.
 Chambers, E. E. Cavendish School, Matlock Bank.
 Gotts, M. The High School, Brentwood.
 Howis, E. E. Tudor Hall, Hawkhurst.
 Roe, J. V. Holmwood, Bexhill.
 Campkin, H. T. Southampton Boys' College.
 Dow, H. H. The King's Lynn Grammar School.
 Hodgkinson, H. d. Vermont College, Clapton.
 Reed, W. H. Malden College, New Malden.
 Rigg, B. H. Henley House S., St. John's Wood.
 Watson, C. B. Balham School.
 Williams, J. P. (1) Lewis' School, Gelligaer.
 Bowen, A. F. Private tuition.
 Browne, F. A. Mercers' School, E.C.
 Cross, H. E. Bournemouth Commercial School.
 Cunradi, C. Skelsmergh House S., Margate.
 Foster, F. S. Loughton School.
 Irwin, S. E. H. Victoria College, Douglas, I. of Man.
 Jenkins, E. S. Private tuition.
 Jolliffe, H. Newcastle-on-Tyne Modern School.
 Martin, J. Upperton College, Eastbourne.
 McDougall, A. The Crossley & Porter S., Halifax.
 Newton, C. V. Baxham Grammar S., Attleboro'.
 Pallant, S. L. High School, Sutton, Surrey.
 Pattrick, J. C. R. The Grange, Halstead.
 Reardon, G. F. 1 Clifton Villas, Harlesden.
 Smith, W. B. St. George's College, Eastbourne.
 Smith, W. H. Brooklands School, Sale.
 Topping, S. A. Stanley House, Margate.
 Weston, W. C. Loughton School.
 Wilkie, R. Wingfield House, Dover.
 Wooster, H. E. Margate College.
 Aske, R. Ousegate School, Selby.
 Bennette, H. Birkenhead School.
 Beswick, W. W. Bourne Coll., Quinton, Birmingham.
 Davies, T. S. Private tuition.
 Finn, T. Tonbridge School.
 Fraser, D. Skelsmergh House S., Margate.
 Greaves, L. Bilton Grange School, Harrogate.
 Hayman, W. C. Private tuition.
 Higginson, W. F. Mill Hill House, Leicester.
 Howes, E. McM. Eastbourne Old School.

Howes, H. H. Portway High School, Bath.
 Lawrence, W. T. Kendrick Boys' School, Reading.
 Lewis, E. (1) Lewis' School, Gelligaer.
 Morrison, C. Brixton Grammar School.
 Pain, C. Milton Abbas School, Blandford.
 Sloper, O. F. Putney School.
 Townend, A. W. Herne House, Margate.
 Tregay, A. C. G. Kendrick Boys' School, Reading.
 Bryant, W. O. Cowper's House S., Huntingdon.
 Fewster, O. L. St. Augustine's Gram. S., Dewsbury.
 Ford, J. F. Grammar School Newton Abbot.
 Goggs, H. J. Cowper's House S., Huntingdon.
 Hanbury, S. W. Private tuition.
 Islip, F. L. Mill Hill House, Leicester.
 Lafferty, F. L. The Academy, Llandilo.
 Neate, C. J. Glencoe, Anglesey, Gosport.
 Reader, H. Rochester Cathedral School.
 St. Aubyn, J. H. B. L. Ashley House School, Worksop.
 Rogers, H. High School, Sutton, Surrey.
 Roxby, H. S. M. Glencoe, Anglesey, Gosport.
 Wright, E. C. Clapham Rise Collegiate School.

SECOND CLASS.—3RD DIVISION.

Butt, A. Parmiter's Foundation School, N.E.
 Campbell, P. W. The Crossley & Porter S., Halifax.
 Cannicott, A. B. Exmouth College.
 Finnis, V. W. Margate College.
 Heath, J. York House School, Reading.
 James, E. Lewis' School, Gelligaer.
 James, E. H. Sidcot School, Weston-super-Mare.
 Jordan, J. A. Southampton Boys' College.
 McLaine, H. J. Rhodes House School, Manchester.
 Roch, H. S. Private tuition.
 Willes, C. S. Eagle House, St. Leonards-on-Sea.
 Willmott, H. E. Vermont College, Clapton.
 Best, A. C. Victoria College, Congleton.
 Boocock, W. E. Christ's College, Finchley.
 Dunk, E. A. Tudor Hall, Hawkhurst.
 Farrar, W. W. Beaconsfield School, Bucks.
 Ingham, B. O. Park Hurst School, Buxton.
 Lazarus, A. J. Poyntington, Bournemouth.
 Love, P. R. H. Snettisham School, King's Lynn.
 Page, G. S. W. Maldeu College, New Malden.
 Pine, C. F. Aberdeen House, Ramsgate.
 Plunkett, A. V. St. Asaph Grammar School.
 Turle, J. E. Royal Grammar S., High Wycombe.
 Yates, H. D. d. Stoke Newington Grammar School.
 Davies, T. B. Lewis' School, Gelligaer.
 Day, G. J. Western College, Harrogate.
 Jones, E. C. Mercers' School, E.C.
 Ouston, H. Hull and East Riding College.
 Philip, R. Berkeley School, Hull.
 Phillips, T. R. Lucton School, Herefordshire.
 Smith, A. O. Loughton School.
 Wynn, A. H. Mercers' School, E.C.
 Barker, N. Brooklands School, Sale.
 Baxter, W. Stamford Hill Collegiate School.
 Dibbs, H. Leeds Grammar School.
 Foster, A. D. Parmiter's Foundation School, N.E.
 Hall, W. E. Wingfield House, Dover.
 Pethick, T. Fairleigh School, Weston-s.-Mare.
 Phelan, B. R. Upperton College, Eastbourne.
 Powell, S. Ellesmere School, Harrogate.
 Prickett, G. F. Private tuition.
 Read, R. Thorne Grammar School.
 Robbins, F. Shrewsbury College.
 Stevens, W. B. The Priory, Kew.
 Wright, A. C. Castle Hill School, Reading.
 Anderson, R. High School, Stockton-on-Tees.
 Atchison, K. G. Ashville College, Harrogate.
 Griffiths, E. H. Dolgellay Grammar School.
 Jackson, R. Priory House School, Bridlington.
 Jones, F. Ludlow Grammar School.
 Jarvis, F. R. A. Harvey Grammar S., Folkestone.
 Lush, E. B. Shrewsbury College.
 Solomon, A. 86 Sutherland Avenue, W.
 Turner, J. S. University College School, W.C.
 Leggett, C. J. A. St. George's College, Wimbledon.
 Worrall, L. Private tuition.
 Attlee, S. A. Herne House, Margate.
 Baker, H. G. Kent College, Canterbury.
 Bendy, W. H. Nelson College, Lee.
 Davies, G. Middle Class School, Brecon.
 Holland, V. R. Margate College.
 Hubert, E. H. Epsom College.
 Humphries, W. F. Epworth College, Rhyl.
 Miles, T. G. West Cliff School, Ramsgate.
 Mogge, A. St. John's College, Southend.
 Rush, F. W. The College, Broadstairs.
 Tanner, T. T. Corsham School.
 Williams, E. R. Lucton School, Herefordshire.
 Bartlett, J. 115 Elswick Rd., Newcastle-on-Tyne.
 Bent, A. J. Corby Grammar S., Grantham.
 Bird, E. G. Nevill House, Abergavenny.
 Jones, R. The School, Eaton Socon.
 Stow, H. J. Hull and East Riding College.
 Winston, G. D. Private tuition.
 Crawley, D. R. T. The Grammar School, Eccles.
 Edgar, W. J. Kendrick Boys' School, Reading.
 Hodgson, R. H. Doncaster Grammar School.
 Johnson, F. Crescent Commercial S., York.
 Miles, F. Eversley House School, Stamford.
 Tilley, A. W. Morgan's Endowed S., Bridgwater.
 Ward, H. Hipperholme Grammar School.
 Garrett, H. C. A. New College, Margate.
 Kelly, P. J. Arnold House S., West Brighton.
 Lindsay, W. H. University Inst., Euston Rd., N.W.
 LinScott, R. G. Margate College.
 Milne, A. A. Henley House S., St. John's Wood.
 Preece, T. A. Longton Endowed School, Staffs.
 Rickards, E. Ludlow Grammar School.

Smith, A. C. Barton School, Wisbech.
 Thomas, D. Lewis' School, Gelligaer.
 Beckett, A. H. The Priory, Kew.
 Baker, H. J. Margate College.
 Dyson, W. F. Hull and East Riding College.
 Ferguson, G. Newton School, Rock Ferry.
 Hardisty, J. H. Burnside School, Ilkley.
 Rea, A. J. University School, Stroud Green.
 Stuckey, E. W. Eagle House, St. Leonards-on-Sea.
 Auchmuty, C. H. Private tuition.
 Cadman, R. F. Kent College, Canterbury.
 Harrison, R. B. Windermere Ho. S., Barnes Comm.
 Lewis, A. W. Farnworth Grammar School.
 Uridge, A. J. R. Grammar School, Lewes.
 Watkins, E. Lewis' School, Gelligaer.
 Bee, P. Goole Grammar School.
 Carr, H. F. St. George's College, Eastbourne.
 Conry, F. D. Mannamend School, Plymouth.
 Edwards, R. The School, Tavistock.
 Frankish, C. N. Eton House, Hull.
 Horton, E. F. Brunswick House, Maidstone.
 Hughes, N. A. A. Hipperholme Grammar School.
 Judd, T. L. Gravesend Proprietary School.
 Penrose, F. R. W. Vermont College, Clapton.
 Powell, W. Lewis' School, Gelligaer.
 Still, E. W. Eltham College, Kent.
 Vawdrey, P. L. University Inst., Euston Rd., N.W.
 Woolhouse, P. J. Eversley House School, Stamford.
 Huxley, W. S. Norton College, Luton.
 Knight, J. A. Western College, Harrogate.
 Maples, E. S. Parkgate Avenue School, Hull.
 Minnis, J. H. Western College, Harrogate.
 Morgan, H. Lewisham Park School, S.E.
 Pettitt, E. E. Rugby House School, Eastbourne.
 Pond, C. W. Margate College.
 Reindorp, C. R. C. Holmwood, Bexhill.
 Symonds, H. J. Hope House School, Southsea.
 Turner, C. S. Cleveland House S., Salisbury.
 Wade, F. Springfield Mount High S., Leeds.
 Wallis, C. E. Private tuition.
 Bellamy, W. H. Milton Abbas School, Blandford.
 Jenkinson, A. E. Grove House S., Tunbridge Wells.
 Payne, H. Bourne Coll., Quinton, Birmingham.
 Willson, A. R. Margate College.
 Beale, L. B. G. S. Grove House S., Tunbridge Wells.
 Blundell, A. S. St. Aubyn's, Eastbourne.
 Drummond, C. Warbreck College, Aintree.
 Home, E. M. Stanley House, Margate.
 Long, H. H. Handel College, Southampton.
 Rees, D. H. Lewis' School, Gelligaer.
 Simpson, S. E. Doncaster Grammar School.
 Williams, F. Clapham Rise Collegiate School.
 Andrews, E. C. Emanuel S., Wandsworth Common.
 Blenkusop, H. H. High School, Stockton-on-Tees.
 Bremner, J. Oakes Institute, Liverpool.
 Bodden, R. Victoria College, Congleton.
 Cummins, W. E. Eastcote, Hampton Wick.
 Jepson, A. B. The College, Leamington.
 Miller, W. H. Retford Grammar School.
 Newman, M. B. Castle Hill School, Ealing.
 Reindorp, H. W. Holmwood, Bexhill.
 Bannerman, C. H. Waverley House School, Southport.
 Beacham, F. R. Worcester Rd. School, Redditch.
 Hodgson, R. E. Private tuition.
 Dewick, G. Hull and East Riding College.
 Morty, G. L. Wallingford Grammar School.
 Parker, J. C. Bickerton House School, Birkdale.
 Parsons, C. G. J. Balham School.
 Renwick, W. B. Vermont College, Clapton.
 Smith, W. C. B. Woolston College, Southampton.
 Allsop, J. Trafalgar House S., Winchester.
 Barker, T. P. Warbreck College, Aintree.
 Bryant, T. A. Trevu Academy, Camborne.
 Chick, J. H. Castle Hill School, Ealing.
 Davies, R. The Grammar School, South Shields.
 Goodfellow, G. Bickerton House School, Birkdale.
 Langdon, C. G. Private tuition.
 Shepherd, V. H. The Crossley & Porter S., Halifax.
 Slater, G. D. Private tuition.
 White, S. W. Nevill House, Abergavenny.
 Barr, J. T. Mead House School, Biggleswade.
 Brown, H. N. International High S., Banbury.
 Deller, J. Ealing Dean College.
 Field, A. E. Tudor Hall, Hawkhurst.
 Frazier, W. S. Battersea Grammar School, S.W.
 Morton, B. T. Castle Hill School, Ealing.
 Rossiter, W. J. Weston School, Bath.
 Sotham, J. C. Castle Hill School, Reading.
 Tuck, S. H. Paignton School.
 Ackland, F. C. Private tuition.
 Caley, J. C. Private tuition.
 Digby, H. A. Private tuition.
 Gill, E. B. Halesowen Grammar School.
 Hutchins, H. Westfield School, Hungerford.
 Curnock, W. M. Margate College.
 Swan, A. The Crossley & Porter S., Halifax.
 Bookey, J. B. Epsom College.
 Harding, S. F. Upper Hornsey Rise High School.
 Larmour, C. E. Enfield Grammar School.
 Rogers, E. N. Shepherd's Bush High School.
 Serin, L. H. Springfield College, Acton Hill.
 Statham, E. E. Private tuition.
 Thomas, W. H. Lewis' School, Gelligaer.
 Wilson, J. H. The Grammar School, Eccles.
 Broxap, E. Broughton S., Higher Broughton.
 Harrison, D. Skelsmergh House School, Margate.
 Hicks, H. W. Chingford High School.
 Mallett, G. The Crossley & Porter S., Halifax.
 Sawyer, W. P. Collegiate School, Bowes.

BOYS, SECOND CLASS—Continued.

- Fawcett, P. Ellesmere School, Harrogate.
 Francis, A. W. Epworth College, Rhyl.
 Shilson, R. A. Emanuel S., Wandsworth Common.
 Thwaite, E. E. Private tuition.
 Webb, E. Broughton S., Higher Broughton.
 Bilney, A. J. Lewis' School, Gelligaer.
 Casdagli, X. E. Laurel Bank S., Higher Broughton.
 Hiller, G. Margate College.
 Jones, P. L. Westbourne Park College, W.
 Miskin, F. Hull and East Riding College.
 Worge, L. E. Private tuition.
 Robinson, W. H. Longton Endowed School, Staffs.
 Clarkson, A. G. Clapham Rise Collegiate School.
 Dewhurst, V. H. Arlington Park College, Chiswick.
 Griffiths, A. E. High School, Barnsley.
 Penny, F. W. Queen's College, Taunton.
 Speight, J. E. The Academy, Wakefield.
 Hoffman, O. C. R. Southampton Boys' College.
 Langford, S. H. Trafalgar House S., Winchester.
 Tilley, R. W. Queen's College, Taunton.

THIRD CLASS.—1ST DIVISION.

- Crass, P. A. d. The Grammar School, Eccles.
 Nash, W. J. d. Swansea College.
 Maunder, H. N. d. Halesowen Grammar School.
 Brown, J. R. s. Private tuition.
 Petit, F. Castle Hill School, Ealing.
 Hédiard, H. d. Eastbourne Old School.
 Jennings, W. Wright's School, Faversham.
 Cross, E. W. ch. Taunton Trade S., Southampton.
 Dyer, P. G. East Cornwall College, Liskeard.
 Surl, A. J. d. Abbey House School, Tewkesbury.
 Green, P. The High S., Finchley Road, N.W.
 Mann, D. L. Buxton College, Stratford.
 Francis, H. Epsom College.
 Gravelius, L. W. Stoke Newington Grammar School.
 Sandford, H. Gravesend Middle Class School.
 Holinger, N. d. Private tuition.
 Robinson, H. H. Altrincham Grammar School.
 Ashwell, P. A. bk. Bishop's Stortford Collegiate S.
 Hutchinson, G. H. Paradise House, Stoke Newington.
 Cramphorn, C. H. Brunswick House, Maidstone.
 Fortnam, W. J. Bourne Coll., Quinton, Birmingham.
 Halliwell, F. B. The Grammar School, Eccles.
 Ferguson, R. A. Newton School, Rock Ferry.
 Macarthur, C. Taunton Trade S., Southampton.
 Probert, F. H. Private tuition.
 Swayne, E. H. nat. Castle School, Guildford.
 McCrory, J. J. Battersea Grammar School, S.W.
 Mitchell, V. Salway House Collegiate S., Leyton.
 Prior, J. W. Private tuition.
 Fogarty, D. Catholic Coll. Inst., Manchester.
 Dorrell, H. L. Private tuition.
 Gabbatt, J. P. Oakes Institute, Liverpool.
 Wheeler, T. J. Rugby House School, Eastbourne.
 Sansom, W. Battersea Grammar School, S.W.
 Whybourn, R. Highbury House S., St. Leonards.
 Cooke, G. H. Carrington Lodge, Richmond, S.W.
 Jacobs, S. Plymouth Public School.
 Seton, C. M. Private tuition.
 Allen, E. G. d. Castle School, Guildford.
 Hill, C. E. The Grammar School, Eccles.
 Kingsland, F. Wright's School, Faversham.
 Nicoll, F. Ashville College, Harrogate.
 Clements, F. J. Retford Grammar School.
 Robinson, C. H. Parmiter's Foundation School, N.E.
 Walmsley, E. A. The Grammar School, Eccles.
 Whitehead, R. P. Parmiter's Foundation School, N.E.
 Schultetus, W. Leylands School, Hornsea.
 Walder, J. P. Castle School, Guildford.
 Beard, H. Oxford House School, St. Albans.
 Dixon, W. H. Bishop's Stortford Collegiate S.
 Mortimer, S. Independent College, Taunton.
 Burn, A. J. Emanuel S., Wandsworth Common.
 Carwardine, L. d. Sidcot School, Weston-super-Mare.
 Hunt, W. H. d. Oxenford House School, Jersey.
 Kendall, J. Oxendell's School, Tiverton.
 Warner, P. H. Corsham School.
 Whymark, S. G. Taunton Trade S., Southampton.
 Agha, H. d. Christ's College, Finchley.
 Briggs, S. H. C. Ashville College, Harrogate.
 Horner, F. M. Hipperholme Grammar School.
 Parkhouse, T. W. Margate College.
 Pepler, A. P. Middle Class S., Weston-s-Mare.
 Baker, A. H. Manor House College, Hastings.
 Croome, R. Abbey House School, Tewkesbury.
 Gale, E. E. Private tuition.
 Smith, C. J. C. Upton School, Slough.
 Sutcliffe, C. E. The Grammar School, Eccles.
 Yaldwyn, E. A. St. Kenelm's Coll., Cowley, Oxford.
 Beaver, A. A. Anerley College, S.E.
 De Peralta, A. Seaford College.
 Lewis, A. E. Pine House, Wincanton.
 Masters, A. Salway House Collegiate S., Leyton.
 Ogier, W. de G. St. James' Collegiate S., Jersey.
 Wilson, E. A. Bilton Grange School, Harrogate.
 Adderley, J. F. Claremont College, Blackpool.
 Fellows, A. A. Queen Mary's Lower S., Walsall.
 Finnis, S. F. W. d. Margate College.
 Paget, W. G. St. Helen's College, Southsea.
 Peake, W. O. Bourne Coll., Quinton, Birmingham.
 Sanderson, C. L. Scarborough Grammar School.
 Ward, H. Private tuition.
 Ascough, M. T. The College, Gildersome.

- Collett, G. F. Sidcot School, Weston-super-Mare.
 Dyer, J. L. Hope House School, Southsea.
 Gardiner, J. A. Old Elvet School, Durham.
 Hancock, H. S. St. Austell School.
 Waller, P. G. d. Handel College, Southampton.
 Webberley, P. Longton Endowed School, Staffs.
 Booth, W. Rhodes House School, Manchester.
 Chandler, W. G. Kendrick Boys' School, Reading.
 Gillham, R. J. Bishop's Stortford Collegiate S.
 Goodall, E. Shrewsbury College.
 Isaacs, J. Tivoli House School, Gravesend.
 Stovold, H. W. Farnham Grammar School.
 Vinter, J. H. Queen's College, Taunton.
 Worrall, G. Y. Taunton Trade S., Southampton.
 Davis, D. Beaufort College, St. Leonard's.
 Garraway, F. H. Apsley House School, Margate.
 Heath, H. J. Castle School, Guildford.
 Laurent, G. Eastbourne Old School.
 Vardy, W. E. Highbury House S., St. Leonards.
 Bradfield, H. H. Grosvenor School, Nottingham.
 German, L. Bible Christian College, Shebbear.
 Joseph, H. Warlingham School.
 Robinson, C. Shrewsbury College.
 Tomlinson, D. R. The College, Gildersome.
 Stedman, C. F. Castle School, Guildford.
 Stephens, T. W. Brighton College.
 Baker, A. Abbey House School, Tewkesbury.
 Dangerfield, R. J. Balham School.
 Hewitson, B. W. Ashville College, Harrogate.
 Hodge, R. Hayle Grammar School, Cornwall.
 Bide, J. Castle School, Guildford.
 Cripps, R. G. Bourne Coll., Quinton, Birmingham.
 Fca, G. O. Hull and East Riding College.
 Firth, F. G. The King's Lynn Grammar School.
 Furber, A. St. George's College, Wimbledon.
 Gamble, C. East Anglian S., Bury St. Edmunds.
 Harvey, B. Scarborough Grammar School.
 Pope, L. T. Surrey House School, Margate.
 Rayfield, S. H. Gravesend Middle Class School.
 Simpson, H. Sidcot School, Weston-super-Mare.
 Smith, R. L. Moorlands School, Bournemouth.
 Watson, C. R. The College, Gildersome.
 Whishaw, R. W. German & French Coll., Wandsworth.
 Felton, E. H. d. The Collegiate School, Grimsby.
 Jones, L. A. M. Queen's College, Streatham Hill.
 Launder, G. H. Thornton House School, Redruth.
 Robinson, I. V. The College, Gildersome.
 Thomlinson, H. Grammar School, Tadcaster.
 Craddock, G. Commercial S., Stratford-on-Avon.
 Jones, E. H. Horsham College.
 Nevell, T. C. Paradise House, Stoke Newington.
 Pulleyn, J. M. The Modern School, Thirsk.
 Sillitoe, W. C. Warehousemen & Clerks' S., Purley.
 Stevenson, S. W. East Anglian S., Bury St. Edmunds.
 Tapp, C. Redland Grove College, Bristol.
 Taviner, S. R. Corsham School.
 Wilson, J. H. Exmouth College.
 Buckley, A. N. Doncaster Grammar School.
 Carter, E. M. Redland Grove College, Bristol.
 Gee, A. Skelsmergh House School, Margate.
 Jones, A. F. Middle Class School, Hertford.
 Seller, G. Commercial College, York.
 Stillwell, E. H. Holmwood, Bexhill.
 Straker, W. S. Seaford College.
 Taylor, E. Shrewsbury College.
 Heath, H. H. The Grammar School, Eccles.
 Klosz, H. Apsley House School, Margate.
 Pike, W. E. Queen's Park College, W.
 Rogers, F. C. Sydenham College, S.E.
 Spindler, W. H. St. George's College, Wimbledon.
 Thomson, B. D. The College, Herne Bay.
 Watson, P. O. Milton College, Ullesthorpe.
 Davis, J. H. L. Commercial School, Penzance.
 Edwards, J. C. G. Dorchester Grammar School.
 Giles, W. Harvey Grammar S., Folkestone.
 Harris, H. Horsham College.
 Mitchell, A. Private tuition.
 Ottewill, H. R. d. Brunswick House, Maidstone.
 Story, C. W. Uckfield Grammar School.
 Terry, E. A. High School, Ashton-on-Mersey.
 Thompson, H. S. Uckfield Grammar School.
 Vickery, C. E. Sydenham College, S.E.
 Weller, H. W. New College, Margate.
 Ainslie, A. D. Claughton Coll. S., Birkenhead.
 Birdall, G. D. Belgrave School, Scarborough.
 Blewitt, C. P. Dudley Middle Class School.
 Cox, A. W. Maidenhead College.
 Dalby, A. H. The Crossley & Porter S., Halifax.
 Deal, R. G. d. Taunton Trade S., Southampton.
 Francis, J. S. Middle Class S., Weston-s-Mare.
 Gough, G. West Kent Grammar S., Brockley.
 Jenkins, H. Hoscot House S., West Kirby.
 Laurie, H. Clytha College, Newport, Mon.
 Parkinson, H. R. Private tuition.
 Quartanos, C. Hope House School, Southsea.
 Coles, C. A. Kendrick Boys' School, Reading.
 Crowe, A. S. Nonconform. Gram. S., Bp. Stortford.
 Drabble, G. C. Cavendish School, Matlock Bank.
 Fisher, H. Upton School, Slough.
 Gosschalk, A. Hull and East Riding College.
 Harrison, T. St. Augustine's Gram. S., Dewsbury.
 Hearne, A. R. J. Farnham Grammar School.
 Reid, P. J. Boys' Collegiate School, Aldershot.
 Robinson, H. Berkeley School, Hull.
 Stillwell, W. D. Holmwood, Bexhill.
 Wallis, A. R. Private tuition.
 Cohn, H. O. Henley House S., St. John's Wood.
 Colbourne, R. L. Private tuition.

- Collins, R. A. Burnley Grammar School.
 Cridlan, J. L. Upperton College, Eastbourne.
 Forrester, K. R. Private tuition.
 Franklin, P. C. Theobald's Gram. S., Needham Mkt.
 Harding, O. H. Rosemont House S., Newport, Salop.
 Holmes, H. G. Morgan's Endowed S., Bridgewater.
 Hosegood, A. W. Queen's College, Taunton.
 Keith, J. B. d. International Univ. College, N.W.
 Lemon, C. J. Germ. & French Coll., Wandsworth.
 Loader, G. O. Kurnella, Bournemouth.
 Michell, S. H. Hayle Grammar S., Cornwall.
 Newton, C. E. Queen's College, Streatham Hill.
 Scott, R. Malden House S., New Malden.
 Turner, A. H. Margate College.
 Wright, J. H. Winchester House, Bristol.
 Clark, H. W. Horsham College.
 Dobell, L. Brighton House Coll. S., Oldham.
 Hardman, G. C. Mt. Radford School, Exeter.
 Harris, E. Craigside Coll. School, Tattenhall.
 Howe, N. Private tuition.
 Jewers, F. East Anglian S., Bury St. Edmunds.
 Lester, L. R. Chevely Hall School, Plymouth.
 Reed, J. W. H. Grammar School, Lewes.
 Bretherton, F. H. Independent College, Taunton.
 Evens, F. W. Friends' School, Saffron Walden.
 Francis, B. Kurnella, Bournemouth.
 Gross, E. Clare House School, Margate.
 Haydon, W. C. Private tuition.
 Margrie, T. W. Exmouth College.
 Marlow, L. St. George's School, Bampton.
 Podelin, G. S. Clarendon House School, Norwich.
 Richards, G. F. Broughton S., Higher Broughton.
 Sinms, P. J. Farnham Grammar School.
 Sproston, S. W. St. George's College, Eastbourne.
 Storr, H. B. Collegiate School, Castleford.
 Williamson, F. Longton Endowed School, Staffs.
 Burt, T. G. Taunton Trade S., Southampton.
 Challenger, V. W. Swansea College.
 Chicken, T. Clytha College, Newport, Mon.
 Ekins, L. G. d. Barton School, Wisbech.
 Elliott, W. J. Hoscot House School, West Kirby.
 Fletcher, A. G. Pine House, Wincanton.
 Hembrow, C. J. G. Kendrick Boys' School, Reading.
 Kerr, W. R. Harvey Grammar S., Folkestone.
 Lines, W. J. Byron House & Ealing Grammar S.
 Marriott, N. G. Edgbaston Academy, Birmingham.
 Moir, E. Brooklands School, Sale.
 Paterson, H. Holloway College, N.
 Roberts, E. J. Norwood Central Schools, S.E.
 Shaw, J. A. Ellesmere School, Harrogate.
 Toule, B. Northgate Schools, Lincoln.
 Williams, A. A. Battersea Grammar School, S.W.
 Wroughton, A. O. B. d. Private tuition.
 Austin, W. G. B. The College, Porthcawl, Glamorgan.
 Clarke, N. P. Osborne House, Margate.
 Cole, P. C. Theobald's Gram. S., Needham Mkt.
 Duckering, C. C. Northgate Schools, Lincoln.
 Eades, H. H. Taunton Trade S., Southampton.
 Goodworth, H. Epsom College.
 Hart, E. P. Bournemouth High S. for Boys.
 Hopkins, R. A. L. F. Taunton Trade S., Southampton.
 Kershaw, H. O. Oakes Institute, Liverpool.
 Lord, H. H. The Grammar School, Eccles.
 Marsh, L. A. Horsham College.
 Norris, F. Elmfield College, York.
 Notley, R. V. St. John-at-Hackney Gram. S., N.E.
 Pluck, W. F. Gravesend Middle Class School.
 Robinson, J. W. Thorne Grammar S., Doncaster.
 Robinson, W. F. Warehousemen & Clerks' S., Purley.
 Seaborne, L. D. High School, Barnsley.
 Tickell, H. R. Chetwynd Grove S., Newport, Salop.
 Tucker, E. Mannam School, Plymouth.
 Westernman, J. W. d. St. Martin's Gram. S., Scarborough.
 White, T. Rosemont House S., Newport, Salop.
 Alexander, G. Norman Road S., Manchester.
 Blackman, E. W. Doncaster Grammar School.
 Braddington, C. Rosemont House S., Newport, Salop.
 Buttery, G. W. Rosemont House S., Newport, Salop.
 Dawson, W. E. The Grammar School, Eccles.
 Fidler, W. E. Towcester Grammar School.
 Frankcom, E. Corsham School.
 Gretton, A. Commercial College, York.
 Hingley, F. Halesowen Grammar School.
 Howard, G. F. Eagle House, St. Leonards-on-Sea.
 Jackson, A. S. St. Peter's Choir School, Pimlico.
 Jones, R. Dolgelly Grammar School.
 Lloyd, E. E. Ware Grammar School.
 Sampson, T. P. Grosvenor School, Nottingham.
 Smith, C. O. Albemarle College, Penge.
 Tims, H. J. Private tuition.
 Whetherall, F. H. Sidcot School, Weston-super-Mare.
 Andrews, H. L. Epsom College.
 Ardill, J. Catholic Coll. Inst., Manchester.
 Birtwick, R. J. Bilton Grange School, Harrogate.
 Cameron, G. A. Park Hurst School, Buxton.
 Codrington, C. A. Mannam School, Plymouth.
 Colyer, S. Wright's School, Faversham.
 Dixon, H. F. Baxham Grammar S., Gt. Yarmouth.
 Franck, G. M. Mt. Radford School, Exeter.
 Gent, A. East Anglian S., Bury St. Edmunds.
 Hancock, W. H. St. Austell School.
 Harrison, J. Burnley Grammar School.
 Heys, R. Gravesend Middle Class School.
 Marston, H. W. H. New Hall, Sutton Coldfield.
 Ponder, C. W. Eagle House, St. Leonards-on-Sea.
 Robinson, F. F. Farnham Grammar School.
 Ruben, H. The Collegiate School, Grimsby.
 Russell, P. R. Southampton Boys' College.
 Wallis, C. E. German & French Coll., Wandsworth.
 Walshaw, J. St. Martin's Gram. S., Scarborough.
 Wilkins, E. Norman Road School, Manchester.
 Wilson, A. W. Warehousemen & Clerks' S., Purley.

BOYS, THIRD CLASS—Continued.

(Wright, F. W. Commercial S., Stratford-on-Avon.
 Backett, W. A. Warehousemen & Clerks' S., Purley.
 Boughey, W. J. Rosemount House S., Newport, Salop.
 Brett, F. W. Harvey Grammar S., Folkestone.
 Crundall, H. D. Ongar Grammar School.
 Ewen, C. H. L'E. The School, Eaton Socon.
 Gavin, B. Emanuel S., Wandsworth Common.
 Jones, J. P. Dolgelley Grammar School.
 Walker, E. L. Sncttisham School, King's Lynn.
 White, C. H. U. Apsley House School, Margate.
 Whittingham, M. Malden College, New Malden.
 Womersley, A. Ashville College, Harrogate.
 Young, E. V. Highbury House S., St. Leonards.
 Cox, M. C. Brean Villa S., Weston-super-Mare.
 Dunnett, A. Queen's Park College, W.
 George, C. Wright's School, Faversham.
 Harrison, A. P. Brunswick House, Maidstone.
 Hayward, R. F. Northgate Schools, Lincoln.
 Hill, C. H. Handel College, Southampton.
 Hiller, E. A. Ongar Grammar School.
 Jenkins, J. I. Swansea College.
 Jones, R. O. Dolgelley Grammar School.
 Kay, H. Commercial College, York.
 Le Masurier, P. Oxenford House School, Jersey.
 O'Keefe, T. St. George's School, Brampton.
 Shirley-Price, H. West Kent Grammar S., Brockley.
 Smallpage, F. H. Elmfield College, York.
 Talbot, J. F. Apsley House School, Margate.
 Twort, J. L. Modern School, Woking.
 White, W. Queen's College, Taunton.
 Wray, J. A. Margate College.
 Broadhead, F. C. Seaford College.
 Clark, C. H. Nonconform. Gram. S., Bp. Stortford.
 Cremer, W. H. Kent College, Canterbury.
 Francis, A. Friends' School, Saffron Walden.
 Groom, W. S. Private tuition.
 Hutchens, F. Hope House School, Southsea.
 Harvey, W. H. Brooklyn House School, Dawlish.
 Murray, S. S. Cliff Middle Class School.
 Richardson, T. A. Eagle House, St. Leonards-on-Sea.
 Riddett, C. G. Kent College, Canterbury.
 Triek, W. W. Bible Christian Coll., Shebbear.
 Walker, E. Hipperholme Grammar School.
 Wallace, L. Oakes Institute, Liverpool.
 Yates, R. C. Shrewsbury College.
 Arber, J. H. Polytechnic Intermediate S., W.
 Bastian, J. Private tuition.
 Bradford, F. High School, Fairfield, Liverpool.
 Brown, E. Hipperholme Grammar School.
 Buckingham, A. T. Apsley House School, Margate.
 Burgess, F. T. Wallingford Grammar School.
 Butler, W. A. Seaford College.
 Castle, N. Nonconform. Gram. S., Bp. Stortford.
 Clayton, F. A. Warwick House School, Southsea.
 Court, E. A. The College, Gildersome.
 Duckett, H. A. Westfield School, Hungerford.
 Edwardson, J. Farnworth Grammar School.
 Harris, A. G. Gurnersbury College.
 Jones, W. O. Claughton Coll. S., Birkenhead.
 Larkam, J. New College, Worthing.
 Marshall, J. D. Bolton High School for Boys.
 Pearce, S. Norton College, Luton.
 Stretton, C. Mill Hill House, Leicester.
 Taylor, W. J. W. Norton College, Luton.
 Thrupp, H. F. St. Leonards Collegiate School.
 Wheatley, L. H. Blundell's School, Tiverton.
 Corbett, F. Rosemount House S., Newport, Salop.
 Davies, G. H. Bourne Coll., Quinton, Birmingham.
 Diaper, E. E. Anglian S., Bury St. Edmunds.
 Ely, A. New College, Margate.
 Felton, R. The Douglas School, Cheltenham.
 Garrard, G. Private tuition.
 Harris, A. Taunton Trade S., Southampton.
 Higson, A. J. Oxford House School, St. Albans.
 Kershaw, G. N. Oakes Institute, Liverpool.
 King, M. G. d. Eastbourne Old School.
 Kingston, E. W. Trafalgar House S., Winchester.
 Millachip, H. C. West Kent Grammar S., Brockley.
 Pinfold, A. J. C. Exmouth College.
 Rowe, A. East Cornwall College, Liskeard.
 Scott, C. E. St. Augustine's Gram. S., Dewsbury.
 Scott, G. W. Middle Class School, Barnstaple.
 Taylor, S. Bickerton House S., Birkdale.
 Tiller, P. E. Taunton Trade S., Southampton.
 Trounson, E. Ashville College, Harrogate.
 Turner, V. All Saints' School, Bloxham.
 Wernicke, H. H. ger. International Univ. Coll., N.W.
 Wileox, J. G. Farnham Grammar School.
 Womersley, H. Ashville College, Harrogate.
 Applin, S. V. Caversham House S., Reading.
 Austin, J. H. Chetwynd Grove S., Newport, Salop.
 Blink, F. T. Northgate Schools, Lincoln.
 Cooper, F. E. The College School, Baldock.
 Coulson, T. T. The Modern School, Thirsk.
 Cowper, B. F. Western College, Harrogate.
 Croft, A. Burnside School, Ilkley.
 Downham, P. G. The College, Herne Bay.
 Drake, G. H. Middle Class S., Weston-super-Mare.
 Duke, G. E. G. Commercial School, Bognor.
 Gate, H. A. A. East Cliff House Gram. S., Margate.
 Greenbank, E. Royal Gram. S., Kirkby Lonsdale.
 Harris, H. T. Warehousemen & Clerks' S., Purley.
 Harris, J. Ashley House School, Workop.
 Hendley, G. Rosemount House S., Newport, Salop.
 Hopps, R. H. Old Elvet School, Durham.
 Horsburgh, C. B. Hermitage School, Bath.
 James, W. H. Chetwynd Grove S., Newport, Salop.
 Jones, D' A. C. Belgrave School, Scarborough.
 Kullmann, H. Norman Road School, Manchester.
 Lock, B. W. West Brighton High School.
 Lucas, H. Castle School, Guildford.

Luce, W. M. Oxenford House School, Jersey.
 McGill, F. R. Broughton S., Higher Broughton.
 Miles, F. E. Boys' Collegiate School, Aldershot.
 Panton, N. B. H. Hurst House, Forest Hill.
 Pudney, R. M. Castle School, Guildford.
 Quinton, H. Private tuition.
 Reed, C. D. Ludlow Grammar School.
 Rhodes, J. P. Blue Coat School, Oldham.
 Righton, S. R. Commercial School, Penzance.
 Rogers, V. F. B. d. Vermont College, Clapton.
 Smart, E. S. Stoke Newington Grammar School.
 Treasure, J. W. O. Fortescue College, Radstock, Bath.
 Williams, C. Commercial S., Stratford-on-Avon.
 Wolff, P. Norton College, Luton.
 Agar, P. D. Commercial College, York.
 Batchelor, H. C. Private tuition.
 Bonner, R. P. Castle School, Guildford.
 Carpenter, C. d. Arnold College, West Bournemouth.
 Craddock, S. Commercial S., Stratford-on-Avon.
 Crosby, H. D. Farnham Grammar School.
 Giles, G. H. Warehousemen & Clerks' S., Purley.
 Glyn, P. E. d. Battersea Grammar School, S.W.
 Gyles, W. J. West Cliff School, Ramsgate.
 Forster, C. Hull and East Riding College.
 Hare, W. E. Hull and East Riding College.
 Jordan, T. Wright's School, Faversham.
 King, A. E. B. W. Madeley House S., Richmond Hill.
 Leonard, W. H. Moorlands School, Bournemouth.
 Littler, F. R. Commercial S., Stratford-on-Avon.
 Mason, A. L. Private tuition.
 Mays, A. J. Northgate Schools, Lincoln.
 Merryfield, H. Queen's Park College, W.
 Parker, A. J. Clyde House, Hereford.
 Perry, J. Thornton House School, Redruth.
 Reed, P. S. Ludlow Grammar School.
 Sampson, C. Norman Road School, Manchester.
 Search, C. P. Upperton College, Eastbourne.
 Shillingford, L. Nonconform. Gram. S., Bp. Stortford.
 Stedman, W. R. Brunswick House, Maidstone.
 Valentine, A. W. East Anglian S., Bury St. Edmunds.
 Watts, C. B. Friends' School, Saffron Walden.
 Arbuckle, H. W. Thorne Grammar School, Doncaster.
 Armes, R. L. Nonconform. Gram. S., Bp. Stortford.
 Ash, W. McD. The Collegiate School, Grimsby.
 Aspinall, F. H. Doncaster Grammar School.
 Broad, H. R. Bournemouth High School for Boys.
 Brook, O. Horley Grammar School.
 Carter, A. Skelsmergh House School, Margate.
 Cunliffe, B. Norman Road School, Manchester.
 Davy, P. B. Brunswick House, Maidstone.
 Derwent, E. Scarborough Grammar School.
 Evans, E. Middle Class School, Brecon.
 Evans, T. J. C. Boys' Collegiate School, Aldershot.
 Ellis, F. E. Mercers' School, E.C.
 Farmer, S. R. Longton Endowed School, Staffs.
 Firth, C. E. Commercial S., Stratford-on-Avon.
 Gaskell, W. W. P. Sutton Park School, Surrey.
 Grimwade, H. A. Theobald's Gram. S., Needham Mkt.
 Hardy, H. C. Battersea Grammar School, S.W.
 Hayes, W. R. Paignton School.
 Innes, R. A. Emanuel S., Wandsworth Common.
 Jotham, H. B. Queen's College, Taunton.
 Lister, W. The College, Clurwell, Leeds.
 Merry, A. G. E. High School, Fairfield, Liverpool.
 Nicholson, P. C. Hart House School, Tregoney.
 Pearce, G. J. Nonconform. Gram. S., Bp. Stortford.
 Pemberton, H. W. The College, Gildersome.
 Purnell, W. J. G. Fortescue College, Radstock, Bath.
 Roseveare, F. Brunswick House, Maidstone.
 Samman, A. Norton College, Luton.
 Shorter, R. G. Herne House, Margate.
 Veal, E. H. Taunton Trade S., Southampton.
 Walker, F. G. Retford Grammar School.
 Walby, J. Dagmar House School, Hatfield.
 Young, W. T. Mill Hill House, Leicester.
 Beecham, S. F. Northgate Schools, Lincoln.
 Brown, L. G. Portway High School, Bath.
 Clark, A. Summerfield School, Sheffield.
 Drower, E. G. Hope House School, Southsea.
 Drowley, G. Brunswick House, Maidstone.
 Eliff, H. Private tuition.
 Green, G. H. Ashville College, Harrogate.
 Harris, W. T. King Edward VI. School, Norwich.
 Lawrence, H. Nonconform. Gram. S., Bp. Stortford.
 Leatt, H. J. St. John's Hospital S., Exeter.
 Mason, W. East Anglian S., Bury St. Edmunds.
 Mathison, R. D. Exmouth College.
 Peacock, O. R. Seorton Grammar S., Darlington.
 Poston, H. St. John's College, Southend.
 Price, S. E. Bourne Coll., Quinton, Birmingham.
 Rimbald, E. A. International Univ. College, N.W.
 Sayer, D. Polytechnic Intermediate S., W.
 Thomas, E. Sycamore Hall S., Goldsithney.
 Titley, H. B. Castle Hill School, Ealing.
 Wadley, E. J. Weston School, Bath.
 Ashcroft, G. P. High School, Ashton-on-Mersey.
 Bell, W. P. Balham School.
 Bonner, C. E. Paignton School.
 Chapman, E. J. Hull and East Riding College.
 Cooke, C. A. d. St. Helen's College, Southsea.
 Echlin, A. J. Ongar Grammar School.
 Eggar, E. Farnham Grammar School.
 Fisher, H. J. West Cliff School, Ramsgate.
 Gabriel, C. H. The Grammar School, Eccles.
 Garrett, B. J. Longton Endowed School, Staffs.
 Hill, J. F. Edgbaston Academy, Birmingham.
 Horne, B. Belmont House, Lee, S.E.
 Hungerford, R. B. Cavendish House S., Hammersmith.
 Kay, J. C. Horsham College.
 Kitching, A. St. Martin's Grammar S., Scarborough.
 Lee, F. Rhodes House School, Manchester.
 Parker, E. H. The Douglas School, Cheltenham.

Read, A. N. New College, Margate.
 Seagrave, J. I. Ongar Grammar School.
 Sharland, J. H. Wiltford House School, Devizes.
 Shepley, G. H. Castle Hill School, Reading.
 Witherwick, G. F. Hull and East Riding College.
 Anthony, W. H. I. L. Dagmar House School, Hatfield.
 Arncliffe, J. A. The College, Gildersome.
 Arthy, E. C. Friends' School, Saffron Walden.
 Ansten, H. J. d. Mile End House School, Southsea.
 Barling, A. Southampton Boys' College.
 Barlow, F. H. W. Brunswick House, Maidstone.
 Brown, H. High School, Stockton-on-Tees.
 Churcher, V. E. G. Middleton School, Bognor.
 Cockayne, E. A. Summerfield School, Sheffield.
 Dyer, E. F. Oxford House School, Brighton.
 Fisher, A. St. Martin's Grammar S., Scarborough.
 Gannery, W. R. P. d. Doncaster Grammar School.
 Gay, R. Castle Hill School, Ealing.
 Gentry, P. M. Vermont College, Clapton.
 Gilbert, F. M. Theobald's Gram. S., Needham Mkt.
 Glenister, L. O. Tudor Hall, Hawkhurst.
 Groves, C. S. d. Mill Hill House, Leicester.
 Guy, R. F. New College, Margate.
 Jenkins, A. S. Stanley House, Margate.
 Johnson, S. J. St. Kenelm's Coll., Cowley, Oxford.
 Kinsey, W. E. Apsley House School, Margate.
 Palk, W. A. Paignton School.
 Rees, H. West Cliff School, Ramsgate.
 Riggall, H. A. Hull and East Riding College.
 Shillingford, W. J. Nonconform. Gram. S., Bp. Stortford.
 Sims, A. Clytha College, Newport, Mon.
 Terrington, J. H. The King's Lynn Grammar School.
 Whittington, J. A. Claremont College, Blackpool.
 Wilson, E. Commercial College, York.
 Ainsworth, A. C. Park Hurst School, Buxton.
 Cartwright, C. R. Chetwynd Grove S., Newport, Salop.
 Edmonds, P. R. New College, Margate.
 Gillard, R. St. John's Choir School, Torquay.
 Imanay, S. C. Forbes House, Notting Hill.
 Hatfield, J. S. St. Augustine's Gram. S., Dewsbury.
 Johnson, O. Polytechnic Intermediate S., W.
 Jordan, J. B. Brooklands School, Sale.
 Kirtley, R. A. Argyle House School, Sunderland.
 Livett, H. M. d. Worthing Grammar School.
 Lowrance, J. P. High School, Barnsley.
 Naylor, F. Blue Coat School, Oldham.
 Pearce, F. A. Henley House S., St. John's Wood.
 Price, F. H. Queen's College, Taunton.
 Richardson, W. G. Dolgelley Grammar School.
 Walker, F. M. Barton School, Wisbech.
 Whitaker, J. Burnley Grammar School.
 Williams, M. G. Ongar Grammar School.
 Wrigley, C. F. Brighton House Coll. S., Oldham.
 Adams, F. Stamford Hill Collegiate School.
 Arncliffe, J. W. Berkeley School, Hull.
 Balmer, P. Warbreck Coll., Aintree, Liverpool.
 Bardell, R. The King's Lynn Grammar School.
 Buckland, G. F. Winchester House, Bristol.
 Clarke, W. Hull and East Riding College.
 Cornish, J. A. Dagmar House School, Hatfield.
 Docking, S. E. Commercial College, York.
 Downing, A. Mount Street Board S., Plymouth.
 Driver, E. Highfield School, Chertsey.
 Duckworth, W. H. Brooklands School, Sale.
 Dunn, G. Rosemount House S., Newport, Salop.
 Grady, J. S. Handel College, Southampton.
 Hodgson, W. H. V. High School, Stockton-on-Tees.
 Horncastle, C. W. St. John's College, Southend.
 Hulme, R. Claremont College, Blackpool.
 Knight, A. A. Boys' British School, Newbury.
 Lamsdale, S. A. Commercial S., Stratford-on-Avon.
 Lewis, E. (H.) Lewis' School, Gelliger.
 Marquis, W. H. Claughton Coll. S., Birkenhead.
 Mist, R. M. Oxford House School, St. Albans.
 Mott, J. B. Mill Hill House, Leicester.
 Mullius, H. G. Collegiate School, Salisbury.
 Pearson, A. Hipperholme Grammar School.
 Piper, A. H. Friends' School, Saffron Walden.
 Rossiter, A. W. Anerley College, S.E.
 Russell, A. J. G. Etonhurst, Weston-super-Mare.
 Stevens, H. W. Winchester House, Bristol.
 Stranger, I. H. Finsbury Park College, N.
 Stuart, K. H. Hoscot House S., West Kirby.
 Trantom, A. Bickerton House School, Birkdale.
 Allwright, R. W. Norton College, Luton.
 Atkinson, A. H. Brunswick House, Maidstone.
 Bailey, P. H. A. The Grammar School, Midhurst.
 Binns, S. A. High School, Ashton-on-Mersey.
 Boyd, B. University School, Stroud Green.
 Carey, C. M. L. Malden College, New Malden.
 Crawshaw, G. Denbigh Grammar School.
 Creech, G. M. Milton Abbas School, Blandford.
 Cressy, S. V. The College, Herne Bay.
 Driscoll, J. F. Randolph S., Hurlingham, S.W.
 Gibbons, H. Wallingford Grammar School.
 Graham, C. Salway House Collegiate S., Leyton.
 Hancock, R. S. Ongar Grammar School.
 Hillman, W. C. Weston School, Bath.
 Hirsch, L. Claughton Coll. S., Birkenhead.
 Hobbs, H. Hart House School, Tregoney.
 Holroyd, R. E. St. Helen's College, Southsea.
 Hopkins, G. A. Sncttisham School, King's Lynn.
 Johnson, A. W. Western College, Harrogate.
 Jones, T. W. Herne House, Margate.
 Knight, C. Queen's Park College, W.
 Lasham, H. C. Margate College.
 Leitchford, P. Salway House, Collegiate S., Leyton.
 Lloyd, G. T. Kendrick Boys' School, Reading.
 Lloyd, L. B. Bourne Coll., Quinton, Birmingham.
 Manrice, M. G. Shrewsbury College.
 Morley, L. C. Beverley House School, Barnes.
 Pethick, H. T. Harleigh House, Bodmin.

BOYS, THIRD CLASS—Continued.

Phillips, H. S. Stoke Newington Grammar School.
 Pugh, F. W. Dolgellay Grammar School.
 Tindin, W. A. Taunton Trade S., Southampton.
 Turpin, A. S. Corsham School.
 Warburton, E. Uckfield Grammar School.
 Whitteridge, W. R. St. John's Higher Grade S., Penge.
 Woodhouse, G. H. Scarborough Grammar School.

Adie, A. Emanuel S., Wandsworth Common.
 Botting, G. E. Castle School, Guildford.
 Busby, A. F. Malden College, New Malden.
 Colbourne, A. H. Private tuition.
 Cox, R. C. Southampton Boys' College.
 Edmunds, H. W. St. John's College, Southend.
 Fidler, J. C. West Cliff School, Ramsgate.
 Fisher, R. W. Polytechnic Intermediate S., W.
 Hankins, G. d. Vermont College, Clapton.
 Hawley, S. B. West Kent Grammar S., Brockley.
 Heleke, C. D. Hart House School, Tregoney.
 James, A. R. Thornton House School, Redruth.
 Jones, W. H. Brooklands School, Sale.
 Kelsey, P. A. C. Dane Hill School, Margate.
 Lemmon, H. G. The King's Lynn Grammar School.
 Murray, B. H. St. Helen's College, Southsea.
 Page, E. H. The Douglas School, Cheltenham.
 Parsons, R. Oxford House School, St. Albans.
 Pratt, J. C. Malden College, New Malden.
 Renals, A. W. Margate College.
 Rossiter, B. E. Milton Abbas School, Blandford.
 Rossiter, P. J. Milton Abbas School, Blandford.
 Sams, S. Ware Grammar School.
 Seth, S. A. East Dulwich Grammar School.
 Smart, H. Byron House & Ealing Grammar S.
 Smith, C. H. Royal Gram. S., Kirkby Lonsdale.
 Tiddeman, P. B. St. John-at-Hackney Gram. S., N.E.
 Trudgett, R. H. Stanley House, Margate.
 Walker, P. P. C. Snettisham School, King's Lynn.
 Wellington, W. Hart House School, Tregoney.
 Wilkinson, H. The Grammar School, Eccles.
 Young, C. B. Nonconform. Gram. S., Bp. Stortford

Archer, T. H. Arundel House School, Surbiton.
 Baker, A. d. Farnham Grammar School.
 Barradale, H. C. Mill Hill House, Leicester.
 Bois, W. B. The Grammar School, Midhurst.
 Bragg, H. S. Ascham House School, Reading.
 Burgoine, A. C. Malden College, New Malden.
 Campion, C. J. Apsley House School, Margate.
 Cogan, A. S. New College, Margate.
 Cogan, R. D. New College, Margate.
 Cohen, R. High School, Stockton-on-Tees.
 Cooper, C. T. Tudor Hall, Hawkhurst.
 Cooper-Smith, E. Epsom College.
 Cossart, C. B. All Saints' School, Bloxham.
 Croggon, F. Hart House School, Tregoney.
 Fleming, E. J. Thorne Hill, Blackheath.
 Gardner, W. A. Hoscot House S., West Kirby.
 Glass, L. C. Stoke Newington Grammar School.
 Gravelins, L. H. Stoke Newington Grammar School.
 Grundy, E. T. S. The Grammar School, Eccles.
 James, C. E. Chetwynd Grove S., Newport, Salop.
 Jolly, W. J. Harleigh House, Bodmin.
 Jones, H. S. West Kent Grammar S., Brockley.
 McMillan, S. F. The School, Eaton Socon.
 Miers, P. Trinity College, Harrogate.
 Miller, F. d. Polytechnic Intermediate S., W.
 Nosworthy, A. J. Private tuition.
 Pope, R. H. Ranelagh School, Hurlingham, S.W.
 Ramskir, C. G. Thorne Grammar S., Doncaster.
 Rayne, H. C. H. Farnham Grammar School.
 Tatton, L. Collegiate School, Llandudno.
 Taylor, W. H. Victoria College, Congleton.
 Thomas, L. C. Southdown College, Eastbourne.
 Thwaites, C. E. Kensington Park College, W.
 Tracy, C. H. Maidenhead College.
 Symons, K. A. Aberdeen House, Ramsgate.
 Ward, O. R. Brooklands School, Sale.
 Williams, F. E. Stoke Newington Grammar School.
 Woolf, H. L. Middleton School, Bognor.

Ashe, G. H. Royal Grammar, Kirkby Lonsdale.
 Barrett, H. P. The King's Lynn Grammar School.
 Burrows, A. Enfield Grammar School.
 Cawston, F. H. Watford Collegiate Schools.
 Clough, S. M. Blue Coat School, Oldham.
 Cooper, T. H. Ludlow Grammar School.
 Cullen, J. Commercial & Gram. S., Herne Bay.
 Dickinson, J. B. Ashville College, Harrogate.
 Fortnam, A. E. Bourne Coll., Quinton, Birmingham.
 Fulljames, C. A. Cliftonville College, Margate.
 Gifford, C. Pine House, Wincanton.
 Griffiths, I. Swansea College.
 Harrison, W. The College, Gildersome.
 Hill, S. T. Kendrick Boys' School, Reading.
 Hunt, C. W. Arlington Park, College, Chiswick.
 Jacobs, G. L. Highbury House S., St. Leonards.
 Jones, J. K. St. Asaph Grammar School.
 Morley, W. H. Commercial College, York.
 Park, E. W. Catford Collegiate School, S.E.
 Richards, S. W. Warehousemen & Clerks' S., Purley.
 Sainsbury, F. Margate College.
 Stephens, F. M. Cheveley Hall School, Plymouth.
 Sutton, F. Hope House School, Southsea.
 Tebay, C. H. Battersea Grammar School, S.W.
 Tucker, A. Emanuel S., Wandsworth Common.
 Turner, G. H. Battersea Grammar School, S.W.
 Watts, F. H. Wilsford House School, Devizes.
 Webb, R. C. Apsley House School, Margate.

Abrahams, L. Portsdown High S., Maida Vale.
 Barnes, G. S. Belle Vue House School, Norwich.
 Blair, W. G. Fairleigh S., Weston-super-Mare.
 Branson, H. H. Osborne High S., West Hartlepool.
 Brown, A. St. Martin's Gram. S., Scarborough.
 Cooke, A. H. Watford Collegiate Schools.

Dawson, K. Streatham College, S.W.
 Dow, H. P. The King's Lynn Grammar School.
 Haden, W. Swansea College.
 Hobbs, F. Kent College, Canterbury.
 Home, P. Finsbury Park College, N.
 Hoyle, K. W. Grosvenor School, Nottingham.
 James, E. G. High School, Fairfield, Liverpool.
 Johnson, G. Trinity College, Harrogate.
 Jones, M. L. Lewis' School, Gelligaer.
 Lazarus, C. Beaufort College, St. Leonards.
 Leonard, T. G. Hull and East Riding College.
 Line, W. J. Castle Hill School, Reading.
 Maas, E. H. Grammar School, Clacton-on-Sea.
 Mackwood, T. Scarborough Grammar School.
 Mance, H. C. Rosemont House S., Newport, Salop.
 Merrick, F. W. New College, Margate.
 Moser, R. Private tuition.
 Nunn, N. A. Castle School, Guildford.
 Parkhurst, S. W. New College, Margate.
 Peet, T. E. Warbreck Coll., Aintree, Liverpool.
 Pellow, J. E. Southampton Boys' College.
 Riley, A. W. Horsham College.
 Roberts, F. W. Warehousemen & Clerks' S., Purley.
 Smyth, F. H. The King's Lynn Grammar School.
 Welsh, D. C. Herne House, Margate.
 Weston, S. F. Westbourne Park College, W.
 Wilders, L. N. L. 7 Sussex Square, Brighton.
 Wilkinson, J. C. Halifax New School.

Bradley, J. B. Dudley Grammar School.
 Beckett, E. P. Queen's College, Taunton.
 Bidlock, A. Rosemont House S., Newport, Salop.
 Bowman, S. "College," Uckfield.
 Chapman, E. H. Gravesend Proprietary School.
 Churley, E. E. Ryde House, Ripley, Surrey.
 Colver, R. Summerfield School, Sheffield.
 Demant, W. A. Lancing College, Shoreham.
 Eastwood, J. Elmfield College, York.
 Earle, G. A. Wilsford House School, Devizes.
 Ellen, E. North London Collegiate S., N.W.
 Evans, D. C. Lewis' School, Gelligaer.
 Fortescue, C. E. International High S., Banbury.
 Goodall, H. S. Kendrick Boys' School, Reading.
 Hayton, C. F. C. Queen's College, Streatham Hill.
 Hillier, C. N. T. Herne House, Margate.
 Hitchins, H. East Cornwall College, Liskeard.
 Lamman, H. Castle Hill School, Reading.
 Marsh, G. Bilton Grange School, Harrogate.
 Marshall, J. S. D. Royal Gram. S., Kirkby Lonsdale.
 Methven, S. C. Eastbourne Old School.
 Moore, F. F. Abbey House School, Tewkesbury.
 Mortimer, W. H. Portway High School, Bath.
 Neave, J. Seaford College.
 Nelson, D. Private tuition.
 Norman, H. J. Mannamoad School, Plymouth.
 Perkins, G. C. Wilsford House School, Devizes.
 Perkins, J. S. Eversley House School, Stamford.
 Pick, J. E. The Modern School, Thirsk.
 Readhead, J. Trinity College, Harrogate.
 Roberts, G. M. Middle Class School, Brecon.
 Root, S. Commercial & Gram. S., Herne Bay.
 Scott, W. A. C. The College, Herne Bay.
 Staples, S. W. Oxford House School, St. Albans.
 Stewart, A. E. Gravesend Middle Class School.
 Toogood, G. E. Hull and East Riding College.
 Toozes, C. Berkeley School, Hull.
 Turle, J. Christ's College, Finchley.
 Warburton, A. F. E. Thorne Grammar S., Doncaster.
 Wilkinson, E. Mannamoad School, Plymouth.
 Williams, S. J. Ware Grammar School.
 Woollard, L. Clyde House, Hereford.

Barron, H. S. Elmfield College, York.
 Barker, F. D. M. Warbreck Coll., Aintree, Liverpool.
 Bate, F. Doncaster Grammar School.
 Bedell, S. E. Brooklands School, Sale.
 Bell, R. W. Warehousemen & Clerks' S., Purley.
 Bessell, S. J. Campbell House School, Bristol.
 Campbell, R. M. Trinity College, Harrogate.
 Churchill, W. Commercial College, York.
 Cooper, J. L. Sandwich School.
 Denny, W. A. Highbury House S., St. Leonards.
 Edwards, J. D. Dolgellay Grammar School.
 Evans, E. A. Elmfield College, York.
 Forshaw, H. Epworth College, Rhyl.
 Gimson, W. J. Emanuel S., Wandsworth Common.
 Gubbins, C. F. R. Henley House S., St. John's Wood.
 Gulleford, H. H. Byron House & Ealing Grammar S.
 Johnson, H. Hull and East Riding College.
 Jones, W. V. Private tuition.
 Jones, W. W. C. Kensington Park College, W.
 Lawrence, A. East Bridgford Academy, Notts.
 Lee, T. H. Battersea Grammar School, S.W.
 Lewis, J. H. S. Victoria College, Congleton.
 Mills, J. H. Emanuel S., Wandsworth Common.
 Mitchell, V. St. George's College, Eastbourne.
 Mitcheson, A. Longton Endowed School, Staffs.
 Newton, J. P. Burnley Middle Class School.
 Norris, E. W. The College, Gildersome.
 Pearce, G. A. Grammar School, Burford, Oxon.
 Plowman, A. R. Battersea Grammar School, S.W.
 Powell, L. St. Mary's Hall, Cardiff.
 Prince, C. H. Alstonefield, Ashbourne.
 Renwick, T. R. D. Grammar School, Newton Abbot.
 Rimmington, E. M. Elmfield College, York.
 Robinson, A. E. Farnworth Grammar School.
 Rothwell, R. H. Hindley Grammar School, Wigan.
 Sergeant, H. Ascham College, Clacton-on-Sea.
 Seton, W. W. Private tuition.
 Staff, W. E. Ongar Grammar School.
 Stevens, A. M. The Grange, Halstead.
 Tanner, J. H. Warehousemen & Clerks' S., Purley.
 Thorpe, P. J. Warehousemen & Clerks' S., Purley.
 Townsend, P. C. Margate College.
 Walker, W. P. Danc Hill School, Margate.

Walters, A.
 Wood, P. P.

Adams, A.
 Aldridge, A. E. D.
 Banks, H.
 Bishop, J.
 Boyle, J.
 Carr, J.
 Chapman, H.
 Clark, H. O.
 Coleman, O. H.
 Cutbill, L. E.
 Davis, J. D.
 Dawson, F.
 Day, L. O.
 Dyson, H. W.
 Emanuel, A.
 Glass, D. W.
 Gritton, H.
 Grubb, H. P.
 Haddy, A. B.
 Hamilton, G.
 Henshall, W. A.
 Hill, A.
 Holzapfel, A. G.
 Hood, H. G.
 Hulke, F. W.
 Hussey, P. A.
 Kohler, H. L.
 Laker, W.
 Lenton, H.
 Lloyd, W.
 Lunt, W. R.
 Manton, J.
 Marlowe, B. G.
 Master, S. H. S.
 Perryman, A. H.
 Pielsticker, R.
 Plowright, C. T. MacL.
 Potter, J.
 Pride, A. J.
 Power, R. C.
 Rickett, H. C.
 Roberts, B. L.
 Robinson, E. C.
 Schlesinger, C.
 Sedgwick, W. F.
 Shadwell, L. W. d.
 Simpson, F. G.
 Smith, R.
 Smith, S. W.
 Smith, F.
 Swallow, F. B.
 Watson, E. H.
 Whiteley, A. F.
 Whitehead, A.
 Winnard, J. R.
 Wilkinson, H.
 Wilson, T. K.

Allen, R. W.
 Arthur, R.
 Ashley, J. A.
 Bardell, A. T.
 Boreman, R.
 Chown, H.
 Clarke, R.
 Cock, J.
 Crook, J. K.
 Duval, H. J.
 Fox, K. C.
 Goodall, A. C.
 Hadfield, E.
 Hallam, T. B.
 Harding, P.
 Hodges, S. R.
 Jeffrey, J. F.
 Knight, E. A.
 Lee, C. H.
 Lowe, W. E.
 Luke, W. J.
 Nathan, E.
 Noakes, R. W.
 Page, D.
 Parker, P. S.
 Parr, J. T.
 Raper, H. B.
 Reeve, W.
 Smith, H. W.
 Stephens, T. A.
 Stocker, E. B.
 Wallis, C. F.
 White, F.
 Wildish, J. W.

Arthur, P.
 Blott, P. W.
 Brittain, H.
 Cunnack, J. H.
 Clarke, W. E. H.
 Climpson, S. A.
 Crole-Rees, C. H.
 Cutting, P. W.
 Foss, H. A.
 Foster, F. M. E.
 German, H. G.
 Goodwin, A. J.
 Gray, C. K.
 Hall, J. P.
 Hawkes, H.
 Hewitt, E. F. H.
 Hill, S. W.
 Hies, A. E.
 James, T.
 Kelly, T. K.

Lewis' School, Gelligaer.
 Southfield School, Hessele, Hull.
 Plymouth Public School.
 Emanuel S., Wandsworth Common.
 Claremont College, Blackpool.
 Clyde House, Hereford.
 Taunton Trade S., Southampton.
 St. George's College, Eastbourne.
 The School, Eaton Socon.
 Wingfield House, Dover.
 Kendrick Boys' School, Reading.
 Osborne House, Margate.
 Queen's College, Taunton.
 Hart House School, Tregoney.
 Claremont House, Watlingtonbury.
 Wellingborough Grammar School.
 Beaufort College, St. Leonards.
 The Crossley & Porter S., Halifax.
 Park House School, Gravesend.
 Finsbury Park College, N.
 Harleigh House, Bodmin.
 West Kent Grammar S., Brockley.
 Brighton House Coll. S., Oldham.
 Fortescue College, Radstock, Bath.
 Thornton Heath School, S.E.
 Margate College.
 Castle School, Guildford.
 Blundell's School, Tiverton.
 Vermont College, Clapton.
 St. Mary's Hall, Cardiff.
 Wellingborough Grammar School.
 Ware Grammar School.
 Oakes Institute, Liverpool.
 Stamford Hill Collegiate School.
 Boys' British School, Newbury.
 Gunnersbury College.
 Buxton College, Stratford.
 St. John's College, Southend.
 The King's Lynn Grammar S.
 Warbreck Coll., Aintree, Liverpool.
 Pynes House S., Thorverton, Devon.
 Enfield Grammar School.
 Stanley House, Margate.
 The Crossley & Porter S., Halifax.
 Northgate Schools, Lincoln.
 Norman Road School, Manchester.
 Brunswick House, Maidstone.
 Dane Hill School, Margate.
 Theobald's Gram. S., Needham Mktd.
 Skelsmergh House S., Margate.
 Willow House College, Walsall.
 Ascham College, Clacton-on-Sea.
 Holmwood, Bexhill.
 High School, Stockton-on-Tees.
 Wellesley College, Nottingham.
 Bilton Grange School, Harrogate.
 Bolton High School for Boys.
 Ousegate School, Selby.
 Newcastle-on-Tyne Modern School.
 University School, Hastings.
 Herne House, Margate.
 Modern School, Woking.
 Wellingborough Grammar School.
 Scarborough Grammar School.
 83 Montpellier Road, Brighton.
 Hope House School, Southsea.
 Ascham College, Clacton-on-Sea.
 Bickerton House School, Birkdale.
 53 Elgin Cres., Kensington Pk., W.
 Mercers' School, E.C.
 Kendrick Boys' School, Reading.
 The Grammar School, Eccles.
 Grosvenor College, Nottingham.
 Skelsmergh House S., Margate.
 The High School, Hastings.
 Upperton College, Eastbourne.
 Battersea Grammar School, S.W.
 Kent College, Canterbury.
 Elmfield College, York.
 Hoe Grammar School, Plymouth.
 Skelsmergh House S., Margate.
 International Univ. College, N.W.
 Croad's School, King's Lynn.
 The College, Gildersome.
 The Grammar School, Eccles.
 Private tuition.
 Grammar School, Newton Abbot.
 Newcastle-on-Tyne Modern School.
 Clyde House, Hereford.
 Grosvenor College, Nottingham.
 Taunton Trade S., Southampton.
 Ascham College, Clacton-on-Sea.
 Emanuel S., Wandsworth Common.
 Warehousemen & Clerks' S., Purley.
 Bournemouth High S. for Boys.
 Summerfield School, Sheffield.
 Norton College, Luton.
 Clyde House, Hereford.
 Brunswick House, Maidstone.
 St. John's College, Southend.
 Clyde House, Hereford.
 Grammar School, Newton Abbot.
 Emanuel S., Wandsworth Common.
 Bible Christian College, Shebbear.
 Clyde House, Hereford.
 The Grange, Halstead.
 Old Elvet School, Durham.
 College, Weston-super-Mare.
 Seaford College.
 Winchester House, Bristol.
 Campbell House School, Bristol.
 Swansea College.
 The College, Gildersome.

BOYS, THIRD CLASS—Continued.

BOYS, THIRD CLASS— <i>Continued.</i>	
Mallett, S. R.	Grosvenor College, Nottingham.
Marshall, C. W.	Parkgate Avenue School, Inhl.
Maynard, H. R.	East Cornwall College, Liskeard.
Mills, H.	Commercial S., Stratford-on-Avon.
Mollett, C. J.	Private tuition.
Mummary, B. G.	Cliftonville College, Margate.
Oldrey, R.	Stanley House, Margate.
Phileox, H. G.	St. John's College, Southend.
Pilch, S.	East Cliff House Gram. S., Margate.
Powel, W. E.	Emanuel S., Wandsworth Common.
Raynes, N. J.	Taunton Trade S., Southampton.
Saxelbye, F. N.	Hull and East Riding College.
Smith, R. H.	7 Sussex Square, Brighton.
Thompson, C. J.	Emanuel S., Wandsworth Common.
Thompson, D.	Bilton Grange School, Harrogate.
Watson, V. J.	Summerfield School, Sheffield.
Williams, T. H.	Dolgelley Grammar School.
Wilson, T.	Hull and East Riding College.
Winterton, J. H.	Brooklands School, Sale.

Allen, W. M. Retford Grammar School.
Ashcroft, W. Lyndon Ho. S., Stoneycroft, L'pool.
Baddley, F. M. Warehousemen & Clerks' S., Purley.
Bawtree, A. L. Sutton Park School, Surrey.
Bell, F. A. R. Newcastle-on-Tyne Modern School.
Briard, E. L. Oakwood House School, Jersey.
Bull, A. E. Mannamoad School, Plymouth.
Charnan, F. W. Emanuel S., Wandsworth Common.
Chittock, C. Private tuition.
Cresswell, E. East Bridgford Academy, Notts.
Dodgshun, F. W. Bilton Grange School, Harrogate.
Duckering, R. Northgate Schools, Lincoln.
Fletcher, N. Ashville College, Harrogate.
Fortescue, L. International High S., Banbury.
Foster, W. A. Elthfield College, York.
Hansford, E. W. Trafalgar House S., Winchester.
Israel, H. Tivoli House School, Gravesend.
Jack, A. G. Hope House School, Southsea.
Jackson, S. C. The Collegiate School, Grimsby.
Lever, E. F. Collegiate School, Morecambe.
Liotard, L. Bickerton House S., Birkdale.
Liversidge, T. Retford Grammar School.
Lloyd, A. B. Bourne Coll., Quinton, Birmingham.
Lofus, E. Grammar School, Clacton-on-Sea.
Mantle, B. Retford Grammar School.
Maude, H. Hipperholme Grammar School.
Morford, A. R. Maidenhead College.
Morley, F. Commercial College, York.
Parker, A. E. Granville House, Margate.
Poulter, H. O. Horsham College.
Robotham, W. E. The Herrick School, Lewisham.
Scarr, G. E. Stoke Newington Grammar School.
Sefton, H. W. d. Bolton High School for Boys.
Stephens, W. J. Sycamore Hall S., Goldsithuey.
Stockdale, B. Clifton House S., Scarborough.
Watt, D. A. F. Taunton Trade S., Southampton.
Wheatstone, C. A. Warwick House School, Southsea.
Wheeler, H. T. Battersea Grammar School, S.W.
Whitfield, W. Barton School, Wisbech.
Williams, A. Hayle Grammar School, Cornwall.
Wilson, S. A. Farnham Grammar School.
Windeatt, J. R. Brooklyn House School, Dawlish.
Yarborough, H. A. St. George's College, Eastbourne.

Anderson, W. Cambridge House School, Wigan.
Bett, W. F. Barton School, Wisbech.
Burdge, H. B. Uckfield Grammar School.
Camp, A. Howden Grammar School.
Chaplin, H. S. Malvern House School, Derby.
Crawford, G. E. Polytechnic Intermediate S., W.
Curtis, J. A. S. Tannott Trade S., Southampton.
Davis, A. A. Warlingham School.
Dodson, G. D. High School, Fairfield, Liverpool.
Doubleday, W. E. Wellingborough Grammar School.
Edwards, V. L. Stoke Newington Grammar School.
Foggin, A. H. The Crossley & Porter S., Halifax.
Gayer, W. H. Portway High School, Bath.
Grindley, J. Shrewsbury College.
Gristwood, F. J. Nonconform. Gram. S., Bp. Stortford.
Hargrave, L. E. G. Belle Vue House School, Norwich.
Hicks, O. D. Tudor Hall, Hawthurst.
Hilton, H. Oxford House School, St. Albans.
Johnson, W. J. Private tuition.
Langrish, W. J. Trafalgar House S., Winchester.
Lowe, T. H. Sydenham College, S.E.
Pearce, W. A. Stanley House, Margate.
Pryor, J. S. Thornton House School, Redruth.
Rait, D. H. East Cliff House Gram. S., Margate.
Ridley, C. E. High School, Stockton-on-Tees.
Sewell, B. Belle Vue House School, Norwich.
Smith, A. P. Clyde House, Hereford.
Smith, F. J. Kilburn Middle Class School, N.W.
Thackrah, H. D. Herne House, Margate.
Thurmarsh, W. J. Theobald's Gram. S., Needham Mkrt.
Walker, F. J. The Academy, Wakefield.
Ward, T. W. Brunswick House, Maidstone.
White, H. T. Emanuel S., Wandsworth Common.
Woods, A. R. W. Glencoe, Anglesey, Gosport.

THIRD CLASS.—2ND DIVISION.

Arnold, W. V.	Brooklands School, Sale.
Barnes, J.	Taunton Trade S., Southampton.
Baxter, C. T.	New College, Margate.
Beard, H.	Stanley House, Margate.
Bennett, M. A.	53 Elgin Cres., Kensington Park, W.
Boissier, A. P.	All Saints' School, Bloxham.
Cradlock, P.	Commercial S., Stratford-on-Avon.
Eade, P. T.	Probus School, Cornwall.
Everett, R. C.	New College, Margate.
Gilbert, G. M.	Gravesend Middle Class School.
Harrison, G.	Burnley Grammar School.
Hawkes, T. F.	Ryde House, Ripley, Surrey.
Hunter, M.	Warehousemen & Clerks' S., Purley.
Jackson, E.	Stamford Hill Collegiate School.

Jones, L.
Kendrick, W. II.
Kennedy, M. B.
Longley, R. R.
Maris, W. B.
Outhwaite, H.
Phillips, L. W.
Ridley, C.
Robinson, A. D.
Robinson, R.
Rogers, E. L.
Sandford, E. J.
Samnders, J. B.
Sefton, N.
Slaghall, W. II.
Slatter, E. A.
Spicer, E. E.
Tooley, C. P.
Tozer, T.
Walker, W. R.
Walkey, A. H.
Waller, E. H.
Williams, M.
Wisbey, P. V.
Youngman, E. G.

Armstrong, H. E.
Ashbey, W.
Bagley, A.
Bainbridge, T. B.
Barnard, A.
Bates, H. D.
Brown, A.
Butler, J. M.
Candler, S. M.
Carey, W.
Carle, J. W.
Copp, C. R.
Craddock, A.
Doust, R.
Edmundson, T.
Gledhill, E.
Goldman, F. C.
Gosschalk, H. J.
Higham, J.
James, F. P.
Jones, D.
Jones, G. S.
Jones, J. L.
Joy, W. J.
Marshall, F. W.
Millard, A. H.
Naor, J. A.
Noakes, E.
Packer, C.
Parry, T. S.
Poulter, W. H.
Poupart, C.
Rainer, P.
Rhys, E. J.
Robertson, W. A.
Robinson, P. J.
Rouse, W. A.
Russell, P.
Samson, C.
Sleeman, H. C.
Smith, R. H.
Walker, C. E.
White, P.
Wilkie, G. M.
Williams, J. M.
Williams, R. O.
Wood, B. I.
Woollerton, F. E.
Worts, C. P.

atkin, J. T.
 attison, J. I.
 ishopp, T. C. S.
 rooker, H.
 utterfield, T.
 amercy, J.
 leverly, A. W.
 otching, G. F.
 olphin, A. N.
 ykes, F. C.
 gg, G.
 inon, D. S.
 inch, J.
 raham, J. W.
 arrison, H. W.
 aslam, J.
 ethingington, W.
 owell, T.
 enner, A. F.
 ohnson, H. C.
 ones, N.
 osling, P.
 aurence, H. E.
 ay, E. J.
 cDonald, W.
 ercer, W.
 ills, A.
 eate, A. B.
 earson, S. E.
 ngelly, C. R.
 ice, E. L. W.
 obert, H. A.
 ind, D. A.
 nodes, T. H.
 chardson, B. M.
 chardson, T. E.
 dway, M.
 re, H. F.
 ar, A. J.

Wilson College, Stamford Hill.
Halesowen Grammar School.
West Kent Grammar S., Brockley.
High School, Barnsley.
Nonconform. Gram. S., Bp. Stortford
The College, Gildersome.
Bellevue School, Southampton.
Warehousemen & Clerks' S., Purley.
Norton College, Luton.
High School, Smethwick.
Sydenham College, S.E.
St. John's Hospital School, Exeter.
Ennwell House School, Warminster.
The Grammar School, Eccles.
Claremont College, Blackpool.
Fernside, Grantham.
Private tuition.
Cathedral Choir School, Ripon.
St. John's Hospital School, Exeter.
Gunnorsbury College.
Warehousemen & Clerks' S., Purley.
St. Peter's, South Lowestoft.
Polytechnic Intermediate S., W.
Margate College.
Bracondale School, Norwich.

Pine House, Wincanton.
 Cambridge House School, Wigan.
 Priory Hill, Wolston, Coventry.
 Wellington Grammar School.
 Hull and East Riding College.
 Emanuel S., Wandsworth Common.
 Towcester Grammar School.
 Wilsford House School, Devizes.
 Middle Class School, Barnstaple.
 Upton School, Slough.
 Summerleaze Coll. S., E. Harptree.
 Private tuition.
 Commercial S., Stratford-on-Avon.
 Gravesend Middle Class School.
 Brooklands School, Sale.
 St. Augustine's Gram.S., Dewsbury.
 Clapham Rise Collegiate School.
 Hull and East Riding College.
 Malden College, New Malden.
 Watford Collegiate Schools.
 Lewis' School, Gelligaer.
 Llandudno College.
 The Academy, Llandilo.
 Taunton Trade S., Southampton.
 Snettisham School, King's Lynn.
 Collegiate School, Bowes Park.
 Liversedge Grammar School.
 Southdown College, Eastbourne.
 Eversley House School, Stamford.
 Blue Coat School, Oldham.
 Castle Hill School, Ealing.
 Skelsmergh House School, Margate.
 Rose Hill High School, Bowdon.
 Abertillery Grammar School.
 Margate College.
 Park Hurst School, Buxton.
 Morgan's Endowed S., Bridgwater.
 Wydenham College, S.E.
 Emanuel S., Wandsworth Common.
 Taunton Trade S., Southampton.
 Tudor Hall, Hawkhurst.
 Grammar School, Clacton-on-Sea.
 Hull and East Riding College.
 Wingfield House, Dover.
 Polgelly Grammar School.
 Polgelly Grammar School.
 Towcester Grammar School.
 Bourne Coll., Quinton, Birmingham.
 The Grange, Halstead.

Yirksworth Grammar School.
 High School, Barnsley.
 Latham College, Kent.
 St. Aubyn's, Eastbourne.
 Hurley Middle Class School.
 High School, Stockton-on-Tees.
 Grammar School, Newport, Mon.
 Orsham College.
 Highbury House S., St. Leonards.
 Hooklands School, Sale.
 Warehousemen & Clerks' S., Purley.
 Lewis' School, Gelligaer.
 Erue House, Margate.
 Berkeley School, Hull.
 Agmar House School, Hatfield.
 Scham House School, Reading.
 Epton School, Slough.
 Grammar School, Newport, Mon.
 Malden College, New Malden.
 Manley House, Margate.
 Crewsbury College.
 Imbledon Collegiate School.
 The Douglas School, Cheltenham.
 Malden College, New Malden.
 Salisbury College, Liverpool.
 New College, Margate.
 St. Elvet School, Durham.
 Silsford House School, Devizes.
 Wilson College, Stamford Hill.
 Commercial School, Penzance.
 St. John's Hill School, Ealing.
 Wyde House, Hereford.
 Wyde College.
 Radgley Hill School, Leeds.
 Ryngmouth College.
 Ryngolgy Grammar School.
 Rose Hill High School, Bowdon.
 Sellingborough Grammar School.
 Agmar School, Newton Abbot.

Seymour, W. B.
Shepherd, J. H.
Smith, C. J.
Soames, P. H.
Spencer, T. W.
Stather, W. H.
Stone, T. E.
Taylor, S.
Topham, W. E.
Wake, E.
Waterman, F.

Adams, V. W.
Ashley, J. W.
Attkisson, H. T.
Balls, H.
Bambridge, H.
Beckerley, W. B.
Brown, B.
Bruce, F. A.
Bryan, W. D.
Crawshaw, H. E.
Darke, P. H.
Dunnore, G. H.
Emptage, H. V.
Fish, T. H.
Gentry, G. S.
Gimblett, S.
Hall, J. W.
Harvey, R. W.
Hilliard, T.
Holgate, E.
Horner, J. R.
Hunter, C. A. M.
Jones, G. P.
Kewley, G. W.
Langdale, A. M.
Leyland, J.
Lowe, T. A.
McCall, R.
Metcalfe, E. P.
Naylor, W. R.
Nicholas, J. P.
Nicholson, J. H.
Parrington, J. W.
Pearson, C.
Pierpoint, H.
Pinnell, C.
Piper, R. G.
Pool, A. E.
Rawson, B.
Robinson, H. M.
Rodgers, C. V.
Samman, F.
Sandeman, H. B.
Sellers, F. W.
Seymour, C. A.
Shanks, J.
Sharpe, E.
Shelgar, M.
Spimney, E. H.
Stableford, G. F.
Stooks, E. W.
Tifford, H. J.
Trenery, E. S.
Trotman, L.
Vincent, E. C. W.
Vincent, S. W.
Walker, A. M.
Yard, M. R.
Youell, C. J.

Adams, R. C.
 Moore, R. H.
 Barker, J. R.
 Barnett, A.
 Blackwell, J. H.
 Glease, A. T.
 Grandreth, J. G.
 Crookes, C. J.
 Leusha, J. C.
 Collier, R.
 Cooke, W. T.
 Davidson, R. G.
 Davies, W. L.
 Davison, H. A.
 Dixon, A.
 Eade, C. A.
 Engel, F. S.
 Fairbairns, C. P.
 Goulds, F.
 Gibbons, H.
 Gower, H.
 Griffiths, E.
 Harmer, J. H.
 Hawken, W. H.
 Hill, E. B.
 Holland, O. H.
 Hollingsworth, C.
 Humphrey, R. M.
 Jones, J. F.
 Jordan, W. B.
 Webb, J. W.
 Leats, F. H.
 Kent, J.
 King, L. J.
 Lippings, V.
 Knight, C. N.
 McCutchie, J. H.
 Mitchell, H. C.
 Moore, G. H.
 Nicholson, T. A.
 Gordon, B.
 Pemberton, C. H.
 Plath, H. A.

Ludlow Grammar School.
 Collegiate School, Morecambe.
 Guildhall Mid.S., Bury St. Edmunds.
 Private tuition.
 The Tattenhall Schools, Chester.
 Eton House, Hull.
 Stamford Hill Collegiate School.
 Holloway College, N.
 The College, Gildersome.
 Ousegate School, Selby.
 Southampton Boys' College.

New College, Margate.
Ludlow Grammar School.
Bickerton House School, Birkdale.
Salway House, Collegiate S., Leyton.
Barton School, Wisbech.
Commercial School, Penzance.
Catholic Coll. Inst., Manchester.
Uckfield Grammar School.
Buxton College, Stratford.
Cavendish School, Matlock Bank.
Brunswick House S., Windsor.
Collegiate School, Salisbury.
Cliftonville College, Margate.
The Grammar School, Midhurst.
Vermont College, Clapton.
Queen's College, Taunton.
The Collegiate School, Grimsby.
Nonconform. Gram. S., Bp. Stamford.
Stamford Hill Collegiate School.
Bolton High School for Boys.
All Saints' School, Bloxham.
Belle Vue House School, Norwich.
Western College, Harrogate.
Epworth College, Rhyl.
Belgrave School, Scarborough.
Hipperholme Grammar School.
Mill Hill House, Leicester.
Belmont House School, Lee, S.E.
Arnold House S., W. Brighton.
West Kent Grammar S., Brockley.
Clyde House, Hereford.
Harvey Grammar S., Folkestone.
Emmanuel S., Wandsworth Comm.
Hull and East Riding School.
Cambridge House School, Wigan.
Grammar School, Burford, Oxon.
Whitworth School, Derby.
Hayle Grammar School, Cornwall.
Mill Hill House, Leicester.
Waterloo College, Northampton.
Victoria College, Congleton.
Norton College, Luton.
Doncaster Grammar School.
Abbey House School, Tewkesbury.
Henley House S., St. John's Wood.
Marlbore Coll. S., Tuebrook, L'pool.
Warbreck Coll., Aintree, Liverpool.
Commercial School, Salisbury.
Moorlands School, Bournemouth.
Queen's College, Taunton.
Joe Grammar School, Plymouth.
East Cliff House Gram. S., Margate.
Vaterloo College, Northampton.
Vellingborough Grammar School.
Battersea Grammar School, S. W.
Barton School, Wisbech.
Iagdalen College S., Wainfleet.
Dugar Grammar School.
Winbledon Collegiate School.

Kurnella, Bournemouth.
 Castle Hill School, Ealing.
 Burnley Middle Class School.
 Ivoli House School, Gravesend.
 Hope House School, Southsea.
 High School, Ashton-on-Mersey.
 Hillsboro', Frodsham.
 Wellingborough Grammar School.
 Victoria College, Congleton.
 The King's Lynn Grammar School.
 Lyde House, Hereford.
 Stoke Newington Grammar School.
 Lyde House, Hereford.
 Wiversedge Grammar School.
 Latham College, Kent.
 International Univ. College, N.W.
 Marlborough School.
 Leatham College, S.W.
 Wellingdon School, Heaton Chapel.
 Rhodes House School, Manchester.
 Portland Grammar S., Plymouth.
 Private tuition.
 Tower House School, Windsor.
 Aveley Hall School, Plymouth.
 St. Anglian S., Bury St. Edmunds.
 Hillsboro', Frodsham.
 Woodford Collegiate & Comm. S.
 Private tuition.
 Angar Grammar School.
 Grammar School, Burford, Oxon.
 Trinity College, Harrogate.
 Queen's College, Taunton.
 Hart House School, Tregoney.
 Housemen & Clerks' S., Purley.
 Malden College, New Malden.
 e College, Herne Bay.
 Lakes Institute, Liverpool.
 Lakes Institute, Liverpool.
 St. Saviour's School, Bloxham.
 Tregory House School, Bridlington.
 Hart House School, Tregoney.
 St. Saviour's School, Bloxham.
 Woking School, Woking.

BOYS, THIRD CLASS—Continued.

Robinson, G. P.	The College, Gildersome.	Stevens, R. A.	Elmfield College, York.	Wilson, C. A.	Boys' Collegiate School, Aldershot.
Saberton, C. W. S.	Claremont College, Blackpool.	Thomas, B. H.	Surrey House School, Margate.	Allen, F. W.	Retford Grammar School.
Spooner, H.	Modern School, Woking.	Thompson, E. S.	Scorton Grammar S., Darlington.	Armitage, H. C.	Liversedge Grammar School.
Stevens, W. A. G.	Ancley College, S.E.	Wallis, A. E.	Taunton Trade S., Southampton.	Bagley, G.	Priory Hill, Wolsort, Coventry.
Thomas, W. M.	Craigside Collegiate S., Tottenham.	Waugh, A.	Nonconform.Gram.S., Bp.Stortford	Bannhr, R.	Enfield Grammar School.
Ticehurst, C.	Durham House S., Clapham Common	Westaway, C.	Friends' School, Saffron Walden.	Bennett, A. W.	Victoria College, Congleton.
Turton, F. W.	Ashville College, Harrogate.	White, L. B.	Trinity College, Harrogate.	Bennett, J. B.	Doncaster Grammar School.
Unwin, F. A.	Springfield College, Acton Hill.	Whyte, A.	Brooklands School, Sale.	Butt, G. M.	Arno House S., West Brighton.
Valentine, V. J.	East Anglian S., Bury St. Edmunds.	Wilson, T. B.	Warbreck Coll., Aintree, Liverpool.	Coates, H. R.	Wellingborough Grammar School.
Wickham, T. B. C.	Middle Class S., Weston-s.-Mare.	Wood, P. M.	Brandon Villa, New Leeds.	Collins, R. T.	Sydenham College, S.E.
Wood, A.	The College, Gildersome.	Woodlin, W. E.	Margate College.	Cooke, H.	Margate College.
Arnold, N. E. C.	New College, Margate.	Armitage, J. W.	St. Augustine's Gram.S., Dewsbury.	Crowther, A.	Halifax New School.
Bacon, F. H.	Farnham Grammar School.	Arnold, L. S.	Brooklands School, Sale.	Davis, H. M.	Highbury House S., St. Leonards.
Baker, J. S.	Emanuel S., Wandsworth Common.	Bennett, S.	Lewis' School, Gelligaer.	Downing, A. F.	Wellingborough Grammar School.
Ball, R. R.	Commercial S., Stratford-on-Avon.	Brown, E. M.	St. Edmund's College, Birmingham.	Ebbels, G.	Lawn House S., Clapham Rd., S.W.
Bannister, W. J.	Grammar School, Lewes.	Brydon, H.	Rhodes House School, Manchester.	Garrett, T. R. II.	Private tuition.
Brittain, L.	Summerfield School, Sheffield.	Butler, C.	Wallingford Grammar School.	Glasgow, B.	Western College, Harrogate.
Broadhurst, R.	The Grange, Halstead.	Carmichael, F. J.	Malden College, New Malden.	Glendinning, J. J.	Halifax New School.
Bowman, T.	Onsegate School, Selby.	Collins, D. G.	Sutton Park School, Surrey.	Goss, W. H.	Mannamend School, Plymouth.
Brown, H. F.	Queen's College, Taunton.	Corbett, A.	Royal Gram. S., Kirkby Lonsdale.	Gould, E. F.	Kendrick Boys' School, Reading.
Bruford, C. H.	Middleton School, Bognor.	Couves, L. J.	Gravesend Proprietary School.	Graham, J. T.	Holmwood, Bexhill.
Church, G. R.	St. John's College, Southend.	Dale, F. H.	St. Kenelm's Coll., Cowley, Oxford.	Haig, S. M.	New College, Margate.
Clayton, T. H.	St. George's Grammar S., Plymouth.	Dewhurst, J. H.	Sidcot School, Weston-super-Mare.	Hall, I. F.	Kendrick Boys' School, Reading.
Collings, E.	Oxford House School, St. Albans.	Dossor, A. R.	Leylands School, Hornsea.	Hargreaves, S.	Waverley House School, Southport.
Coxall, H. S.	Northampton House S., Cheltenham	Downey, W. P.	Malden College, New Malden.	Hes, H. S.	Campbell House School, Bristol.
Crisp, G. H.	Enfield Grammar School.	Edgecombe, E. S.	Private tuition.	Johnson, E. H.	Western College, Harrogate.
Davis, H. E.	Bickerton House School, Birkdale.	Farncombe, H.	"College," Uckfield.	Jones, W.	Salway House Collegiate S., Leyton.
Dickin, H. O.	Bracondale School, Norwich.	Fenner, F.	Uckfield Grammar School.	Liversidge, E.	Retford Grammar School.
Drake, J. F.	High School, Ashton-on-Mersey.	Fisher, J. O.	Seaford College.	Lobley, J.	Victoria College, Congleton.
Dudley, C. L.	Hoe Grammar School, Plymouth.	Flood, A. E.	Emanuel S., Wandsworth Common.	Mattinson, H.	Royal Grammar S., Kirkby Lonsdale.
Foot, S. J.	Private tuition.	Godby, N. F.	Bickerton House School, Birkdale.	May, H. S.	St. John's Higher Grade S., Penge.
Foster, A. C.	Grange College, Leominster.	Hammond, A. G.	Kent College, Canterbury.	Moseley, G. W.	Lucton School, Herefordshire.
Gammidge, H. W. d.	Harleigh House, Bodmin.	Harben, G. A.	Henley House S., St. John's Wood.	Norfolk, H.	Western College, Harrogate.
George, B.	Brighton House Coll. S., Oldham.	Harrison, W. P. L.	Hatton House S., Newark-on-Trent.	Parr, P. B.	The Grammar School, Eccles.
Hadfield, H.	Norton College, Luton.	Hartley, A. H.	Ashville College, Harrogate.	Pearson, W. H.	Llandudno College.
Hall, E. H.	Retford Grammar School.	Harton, C. H.	High School, Ashton-on-Mersey.	Pescod, H. T.	Nelson College, Lee.
Harry, S. P.	Malvern House School, Derby.	Hendy, H.	Harleigh House, Bodmin.	Scarlett, F.	Uckfield Grammar School.
Haslam, S. B.	Kent College, Canterbury.	Horsey, H.	Stamford Hill Collegiate School.	Simpson, F. D.	Commercial S., Stratford-on-Avon.
Hatton, H.	Ashley House School, Worksop.	Hughes, P. D.	Brooklands School, Sale.	Smith, F. C.	Holmwood, Bexhill.
Hunter, M.	Kurnella, Bournemouth.	Jackson, A.	Burnley Middle Class School.	Stephens, P.	The Lawn School, St. Austell.
Jenkins, C.	Epworth College, Rhyl.	Jervis, H. J.	Retford Grammar School.	Temple, E. G.	Preparatory S., Wandsworth Comm.
Jevons, B.	Oxenford House School, Jersey.	Jones, R. P.	Middle Class S., Weston-s.-Mare.	Thornber, W.	Brooklands School, Sale.
Kaantze, H. B.	Bourne Coll., Quinton, Birmingham.	King, E. J.	Rhodes House School, Manchester.	Turvin, C. H.	Queen's College, Taunton.
Kay, W. R.	St. John's College, Southend.	Laity, H. T.	Sycamore Hall S., Goldsithney.	Van Praagh, B.	Tivoli House School, Gravesend.
Kirby, P. J.	Emmanuel S., Wandsworth Common.	Lulliam, S. B. J.	"College," Uckfield.	Waterworth, J. H.	The Herrick School, Lewisham.
Klein, K.	Breydon House, Bournemouth.	Mears, W. A.	Caversham House School, Reading.	West, N.	Independent College, Taunton.
Larrette, C. G.	Surrey House School, Margate.	Miles, B. R.	Grange College, Leominster.	Whiting, R. S.	Clyde House, Hereford.
Lewis, H.	Hope House School, Southsea.	Mitchell, S.	Springfield College, Acton Hill.	Williams, H. S.	St. Augustine's Gram.S., Dewsbury.
Macdonald, A. S.	Eltham College, Kent.	Moon, A. T.	Cheveley Hall School, Plymouth.	Wilson, H. R.	Belle Vue House S., Norwich.
Montagne, H. P.	St. Augustine's Gram. S. Dewsbury.	Pendleton, E.	Bishop's Stortford Collegiate S.	Baker, A. F.	Queen's College, Taunton.
Morrison, W.	Farnham Grammar School.	Pope, J. B.	Watford Collegiate Schools.	Barnett, G.	Reading Collegiate School.
Oxley, A.	Hayle Grammar School, Cornwall.	Rawson, J. G.	Retford Grammar School.	Beames, H. D.	Warehousemen & Clerks' S., Purley.
Perriam, C.	International Univ. College, N.W.	Ray, E. W.	St. John's College, Southend.	Beaumont, H. J.	Brooklands School, Sale.
Pool, T. A.	Halifax New School.	Roberts, G. L.	Cheveley Hall School, Plymouth.	Briggs, E. C.	Castle School, Guildford.
Priest, S. G.	Northgate Schools, Lincoln.	Rochford, A. R.	Hillcrest School, Folkestone.	Chapman, H. A.	The Collegiate School, Grimsby.
Ramsden, C.	Gnildhal Mid.S., Bury St. Edmunds.	Rocbuck, E. W.	Epworth College, Rhyl.	Collins, H.	Kendrick Boys' School, Reading.
Reynolds, R. W.	Ware Grammar School.	Smart, H. G.	York House School, Luton.	Crawley, F. W.	The Grammar School, Eccles.
Ridley, F. B.	Warehousemen & Clerks' S., Purley.	Stretton, G.	Grosvenor School, Nottingham.	Davis, W. R.	Ongar Grammar School.
Sadler, C.	Trafalgar House S., Winchester.	Thomas, T. P.	Lewis' School, Gelligaer.	Deacock, H. C.	Margate College.
Silcock, G. T.	Farnworth Grammar School.	Toule, A.	Northgate Schools, Lincoln.	Deverill, E.	Upton School, Slough.
Snow, A. E.	Castle School, Guildford.	Turner, G. W. H.	Bickerton House School, Birkdale.	Duval, D.	Norman Road School, Manchester.
Stead, G. D.	Halifax New School.	Waine, J. V.	Bourne Coll., Quinton, Birmingham.	Dunning, F. J.	Priory House School, Bridlington.
Stent, R. B.	West Brighton High School.	Wellesley, C. G. V.	Prætoria House, Folkestone.	Ellis, F. C.	Northgate Schools, Lincoln.
Sunderland, J. R.	Rosemont House S., Newport, Salop.	White, W. H.	The College, Broadstairs.	Exelby, E. A.	Commercial College, York.
Tanner, F. H.	The College, Gildersome.	Williams, E.	Shrewsbury College.	Fayers, A.	Theobald's Gram.S., Needham Mkrt.
Trow, E.	Lewis' School, Gelligaer.	Woodburn-Heron, H. E. D.A.	Margate College.	FitzGerald, M. M. A.	Morgan's Endowed S., Bridgwater.
Welton, E.	Hull and East Riding College.	Adams, E. E.	Windermere House S., Barnes Com.	Fox, R. J.	Barton School, Wisbech.
Williams, R.	Vermont College, Clapton.	Barker, B. M.	Cathedral Choir School, Ripon.	Greaves, H. P.	Bilton Grange School, Harrogate.
Wilson, E. O.	Mannamend School, Plymouth.	Barton, R. L.	Hull and East Riding College.	Greaves, S. C.	Private tuition.
Withers, E. E.	St. George's College, Wimbledon.	Beamish, J.	Highfield Collegiate S., Rock Ferry.	Griffith, L.	Hindley Grammar School, Wigan.
Anderson, A.	Harvey Grammar S., Folkestone.	Beeton, H. G.	Queen's College, Taunton.	Grylls, E.	Hart House School, Tregoney.
Barkshire, F.	Margate College.	Berger, C. C.	Henley Ho. S., St. John's Wood.	Hart, H. O.	Mercers' School, E.C.
Bate, W. F.	Bilton Grange School, Harrogate.	Blatherwick, J. B.	High School, Barnsley.	Hartree, P. H.	Corsham School.
Batten, S. W. G. B.	Farnham Grammar School.	Boughton, H. F.	Kendrick Boys' School, Reading.	Hide, H. M.	Malden College, New Malden.
Beachell, H.	College, Weston-super-Mare.	Briggs, T. L.	Castle School, Guildford.	Inglan, R. T.	Denbigh Grammar School.
Billinge, R. A.	St. James' Collegiate School, Jersey.	Brown, J. W. II.	Oxford House School, Brighton.	Jelleries, H. G.	Theobald's Gram.S., Needham Mkrt.
Birch, F. J.	Northgate Schools, Lincoln.	Buckingham, A. E.	Apsley House School, Margate.	Jones, G. P.	The College, Portcawl, Glamorgan.
Blampied, R. J.	Wilsford House School, Devizes.	Bush, W. H.	Oxford House School, Brighton.	Jones, O.	Dolgelley Grammar School.
Bradbury, F. E.	Emmanuel S., Wandsworth Common.	Butcher, H. J.	Emanuel S., Wandsworth Common.	Kingston, R.	Emanuel S., Wandsworth Common.
Butler, J.	Malden College, New Malden.	Cameron, W. E. G.	Emmanuel S., Wandsworth Common.	Lewis, A.	St. Mary's Hall, Cardiff.
Butt, A.	Bickerton House School, Birkdale.	Carter-Mitchell, G.	Thirsk High School.	Lewis, B.	Wellington School, Heaton Chapel.
Carmichael, P.	Osborne House, Margate.	Clark, F.	Cowper's House S., Huntingdon.	Lishman, F.	Gainford School, Darlington.
Clinning, T. O.	Grammar School, Newton Abbot.	Cudlip, E. P.	Mannamend School, Plymouth.	Morton, J.	The King's Lynn Grammar School.
Cobb, F. H.	Hillside Lodge, Blackheath.	Edelmann, H. G.	Tivoli House School, Gravesend.	Mossop, S. S.	The King's Lynn Grammar School.
Cole, E. S.	High School, Fairfield, Liverpool.	Edler, A.	Brooklands School, Sale.	Reed, S. J.	Stoke Newington Grammar School.
Cole, F.	Nonconform.Gram.S., Bp.Stortford.	Ewen, G. S.	Southfield School, Hessle, Hull.	Roberts, W. C.	Ludlow Grammar School.
Collister, F.	New College, Margate.	Foster, W. F.	Private tuition.	Snell, R. T. H.	Mannamend School, Plymouth.
Dowd, E. G.	Retford Grammar School.	Francis, W. S.	High S., Maidee, Newport, Mon.	Soars, A. R.	Fairleigh House, Weston-s.-Mare.
Elsdon, S. C.	Potternewton College, New Leeds.	Fraser, A. W.	Margate College.	Stanforth, T. H.	Cavendish School, Matlock Bank.
Grant, G. F.	Herne House, Margate.	Graham, S.	Newcastle-on-Tyne Modern School.	Stevenson, G.	Trafalgar House School, Winchester.
Greene, G. F.	Indlow Grammar School.	Hooper, W.	Mount Street Board S., Plymouth.	Tilby, A. W.	Clarendon House S., Eastbourne.
Gooch, S. A.	Wellington Grammar School.	Howells, W.	Lewis' School, Gelligaer.	Toller, W. S. N.	Milton College, Ullesthorpe.
Harmer, H. T. E.	St. George's Grammar S., Plymouth.	Hurford, L. J.	Ware Grammar School.	Trinder, G. H.	Warehousemen & Clerks' S., Purley.
Harris, P. V.	Hull and East Riding College.	Johnson, P. T.	Polylechnic Intermediate School, W.	Ward, H. C.	Ludlow Grammar School.
Hill, C. M.	Bishop's Stortford Collegiate S.	Judd, E. T.	Trafalgar House S., Winchester.	Williams, W. A.	Halifax New School.
Holmes, A.	Warehousemen & Clerks' S., Purley.	Kemsley, B. W.	Brunswick House, Maidstone.	Ziffo, S. G.	Arlington Park College, Chiswick.
Hughes, R.	Thorne Grammar S., Doncaster.	Knibb, A. E.	Lawn House S., Clapham Rd., S.W.	Andrews, H. G. R. F.	Hope House School, Southsea.
Jarvis, W.	Rosemont House S., Newport, Salop.	Liner, F.	Wellingborough Grammar School.	Bain, F. W.	Argyle House School, Sunderland.
Kay, R.	Halbrake S., Wandsworth Common.	Martin, F. J.	Winchester House, Bristol.	Beard, E.	Hart House School, Tregoney.
Kidson, F. C.	Mannamend School, Plymouth.	Memery, H.	Oakes Institute, Liverpool.	Berrey, G. W.	Brunswick House, Maidstone.
Laws, J. R. de W.	The Crossley & Porter S., Halifax.	Morgan, G. S.	Victoria College, Congleton.	Bignold, H.	Upton School, Slough.
Ledsham, M. N.	Stamford Hill Collegiate School.	Poulton, G.	Holmwood, Bexhill.	Botteley, A. A. T.	Lucton School, Herefordshire.
Lister, H.	Plymouth Public School.	Quinn, J.	Catholic Coll. Inst., Manchester.	Brain, T. E.	Grammar School, Burford, Oxon.
Manton, E.	Commercial S., Stratford-on-Avon.	Raban, W. B.	The College School, Baldock.	Brooks, J. S.	Stoke Newington Grammar School.
Matthews, W.	Queen's College, Taunton.	Robertson, H. E.	Real-Gymnasium, Bouverie Rd., N.	Carter, B. M.	St. Leonards Collegiate School.
Morgan, R. W.	Private tuition.	Rowett, F. C.	St. Austell School.	Colson, A. E.	Ongar Grammar School.
Penny, T. H.	International Univ. College, N.W.	Seekington, E. P.	Towcester Grammar School.	Cross, J. M.	Clare House, Hull.
Porkess, W.	Rugby House School, Eastbourne.	Sheriff, S. W.	Ashley House School, Worksop.	Dawes, W. M.	Ludlow Grammar School.
Pugh, E. S.	Highbury House S., St. Leonards.	Somerton, W. L.	Middle Class S., Weston-s.-Mare.	Dixon, R. B.	Brooklands School, Sale.
Rayner, G. II.	Nonconform.Gram.S., Bp.Stortford	Sunley, A.	Doncaster Grammar School.	Donbrain, E. W.	Northgate Schools, Lincoln.
Skinner, R. E.		Taylor, A. C.	Dagmar House School, Hatfield.	Evershed, R. S.	Horsham College.
Spurgeon, E. F.		Upton, S. F.	New College, Margate.	Forster, W. J.	Upton School, Slough.
		Wentworth, W. L.	Priory House School, Bridlington.	Gandy, C. R.	Apsley House School, Margate.

BOYS, THIRD CLASS—Continued.

- Greenhalgh, F. H. Hindley Grammar School, Wigan.
 Greves, W. R. Dane Hill School, Margate.
 Harper, F. P. Shettisham School, King's Lynn.
 Hinsley, H. Howden Grammar School.
 Hirsch, J. E. Portsdown High School, Maida Vale.
 Holloway, W. E. C. Chiswick Preparatory School.
 Houlding, W. Burnley Middle Class School.
 Islip, W. Wellingborough Grammar School.
 Jones, B. H. Putney School.
 Kelly, A. R. Horsham College.
 Lambert, W. R. Retford Grammar School.
 Little, R. Corsham School.
 Lough, E. Emanuel S., Wandsworth Common.
 McEvoy, W. E. Trafalgar House School, Winchester.
 McKean, R. All Saints' School, Bloxham.
 Mee, E. W. Clewer House School, Windsor.
 Merridew, L. M. Wilsford House School, Devizes.
 Morris, T. II. Ashford House School, Birkenhead.
 Norton, J. McN. Emanuel S., Wandsworth Common.
 Palfreyman, A. J. Wellingborough Grammar School.
 Pilcher, W. Harvey Grammar S., Folkestone.
 Preston, C. L. Wilson College, Stamford Hill.
 Pritchard, G. H. Kendrick Boys' School, Reading.
 Rosenthal, G. D. Stamford Hill Collegiate School.
 Rowlands, J. H. Lewis' School, Gelligaer.
 Sare, R. G. Wellingborough Grammar School.
 Stevens, A. H. The Priory, Kew.
 Taylforth, C. Royal Gram. S., Kirkby Lonsdale.
 Taylor, W. H. Retford Grammar School.
 Thomas, B. T. Surrey House School, Margate.
 Vowles, S. M. Warehousemen & Clerks' S., Purley.
 Wedderburn, C. F. Arnold House S., West Brighton.
 Wilputte, L. N. Lewis' School, Gelligaer.
 Wilson, J. H. Brandon Villa, New Leeds.
- Apthorpe, H. F. E. Arnold House S., West Brighton.
 Baxter, T. H. Southern College, Harrogate.
 Bennett, W. V. St. Anstall School.
 Bentley, A. G. Warbreck Coll., Aintree, Liverpool.
 Blockley, W. H. Ludlow Grammar School.
 Carse, R. E. Brooklands School, Sale.
 Chalk, L. Southdown College, Eastbourne.
 Clark, E. Retford Grammar School.
 Clarke, H. H. Clyde House, Hereford.
 Cooper, P. D. Weston School, Bath.
 Cross, H. H. Oxenford House School, Jersey.
 Daft, L. Retford Grammar School.
 Davis, W. L. Queen's College, Taunton.
 Dickson, R. J. B. Clytha College, Newport, Mon.
 Drimnie, D. Balham School.
 Edwards, A. Eagle House, St. Leonards-on-Sea.
 Farr, L. Clyde House, Hereford.
 Fish, F. K. St. Aubyn's S., Woodford Wells.
 Fletcher, G. H. High School, Fairfield, Liverpool.
 Francis, H. d. Wickham House, Northampton.
 Frost, J. K. Battersea Grammar School, S.W.
 Goodman, T. Halifax New School.
 Green, T. H. S. Woodford Collegiate & Comm. S.
 Harper, R. C. E. Old Bank Ho. Coll. S., Castle Carey.
 Hartley, J. W. Bickerton House S., Birkdale.
 Hebblethwaite, A. R. Hull and East Riding College.
 Jenvey, W. P. Southampton Boys' College.
 Jermyn, O. R. The King's Lynn Grammar School.
 Keith, A. R. d. International Univ. College, N.W.
 Laundry, C. E. Real-Gymnasium, Bouverie Rd., N.
 Lewis, S. Kent College, Canterbury.
 Lincoln, J. T. Elmfield College, York.
 Lowe, W. College, Weston-super-Mare.
 Lowe, W. S. E. Private tuition.
 Marriott, T. B. Wellesley College, Nottingham.
 Marshall, E. H. Parkgate Avenue School, Hull.
 Maw, J. A. P. Belgrave School, Scarborough.
 McEvoy, M. P. Trafalgar House S., Winchester.
 Milne, R. J. Middleton School, Bognor.
 Needham, R. Milton College, Ullesthorpe.
 Paton, H. Durham House S., Clapham Comm.
 Pegg, H. S. New College, Margate.
 Pim, W. C. Hillsboro', Frodsham.
 Phillips, M. G. Sycamore Hall S., Goldsithney.
 Phillips, W. N. Clyde House, Hereford.
 Pomfret, E. R. Edgbaston Academy, Birmingham.
 Robertson, G. W. Dane Hill School, Margate.
 Selfe, A. W. Pretoria House, Folkestone.
 Smith, S. G. Gravesend Proprietary School.
 Smith, S. W. Farnham Grammar School.
 Stone, L. R. Farnham Grammar School.
 Straker, E. O. Luton School, Herefordshire.
 Taylor, C. R. Warbreck Coll., Aintree, Liverpool.
 Walker, F. G. Private tuition.
 Williams, J. R. Collegiate School, Llandudno.
 Wilson, S. E. A. Brandon Villa, New Leeds.
- Abraham, J. Brunswick House, Maidstone.
 Batt, F. Norton College, Luton.
 Bell, E. Surrey House School, Margate.
 Bigglestone, C. S. Commercial & Gram. S., Herne Bay.
 Bush, R. W. Beaumont House School, Jersey.
 Brooker, P. H. Brunswick House, Maidstone.
 Clampett, R. W. T. All Saints' School, Bloxham.
 Clayton, A. E. Wellingborough Grammar School.
 Cook, J. Wright's School, Faversham.
 Corin, J. Halesowen Grammar School.
 Critchley, G. F. Dudley House, Lee, S.E.
 Day, E. W. The College, Burnham, Somerset.
 Drabble, C. C. Summerfield School, Sheffield.
 Edgar, G. Clytha College, Newport, Mon.
 Edwards, C. P. Polytechnic Intermediate S., W.
 Farmer, H. W. Trafalgar House S., Winchester.
 Fawcett, O. W. Potternewton Coll., New Leeds.
 Funnell, R. Eastbourne Old School.
 Gabb, F. Apsley House School, Margate.
 Gandy, A. R. Apsley House School, Margate.
 Gibson, W. F. Leylands School, Hornsea.
- Graham, G. S. St. Kenelm's Coll., Cowley, Oxford.
 Hall, P. Western College, Harrogate.
 Herrington, A. G. Kendrick Boys' School, Reading.
 Hill, T. F. Private tuition.
 Hunt, A. P. A. Leamington Collegiate School.
 Jones, A. E. Cloughton Coll. S., Birkenhead.
 Keaton, A. W. Claremont House, Wateringbury.
 Kempster, J. Grammar School, Burford, Oxon.
 Kempthorne, B. International Univ. College, N.W.
 Kingyett, N. F. Osborne House, Margate.
 Kinsey, J. B. Apsley House School, Margate.
 Le Couteur, E. East Anglian S., Bury St. Edmunds.
 Lee, F. T. Cliff House College, West Brighton.
 Maidment, R. Morgan's Endowed S., Bridgwater.
 Marshall, F. Wilsford House School, Devizes.
 Milbourn, C. Warbreck Coll., Aintree, Liverpool.
 Nice, C. Stamford Hill Collegiate School.
 Papworth, J. Margate College.
 Saffell, R. T. Emanuel S., Wandsworth Common.
 Scott, H. P. Grammar School, Newport, Mon.
 Seaborne, E. S. High School, Barnsley.
 Smurthwaite, G. E. Retford Grammar School.
 Swift, W. H. Retford Grammar School.
 Todd, E. G. Milton College, Ullesthorpe.
 Watson, A. E. Cliftonville College, Margate.
 Wilson, H. Hull and East Riding College.
- Baker, H. T. Castle School, Guildford.
 Barwood, A. E. Bracondale School, Norwich.
 Beecroft, R. Eton House, Hull.
 Bradden, E. Queen's College, Taunton.
 Brett, C. Farnham Grammar School.
 Brown, A. G. Trafalgar House S., Winchester.
 Camphius, P. Norton College, Luton.
 Carr, T. Middleton School, Bognor.
 Cartwright, J. Cathedral Choir School, Ripon.
 Ching, S. J. Marnmead School, Plymouth.
 Clark, J. St. George's School, Brampton.
 Davies, H. P. Ludlow Grammar School.
 Davis, A. Wingfield House, Dover.
 Denston, F. A. Bickerton House School, Birkdale.
 Dewsbury, S. Ware Grammar School.
 Dixon, J. Brooklands School, Sale.
 Drinkwater, L. Grammar School, Burford, Oxon.
 Durrant, H. T. Warehousemen & Clerks' S., Purley.
 Edmondson, P. Holloway College, N.
 Everall, W. T. Ludlow Grammar School.
 Falkner, E. B. High School, Ashton-on-Mersey.
 Fox, F. Commercial College, York.
 Herring, D. D. Old Elvet School, Durham.
 Howell, S. W. St. John's Choir School, Torquay.
 Howett, G. Gunberrie House School, Edgware.
 Hoyles, T. L. Commercial S., Stratford-on-Avon.
 Hughes, H. Brooklands School, Sale.
 Huxtable, J. Central School, Barnstaple.
 Ives, L. W. H. Margate College.
 Jacques, R. H. Elmfield College, York.
 Kay, G. H. The College, Gildersome.
 Knibb, F. C. Lawn House S., Clapham Rd., S.W.
 Lake, R. J. Private tuition.
 Little, A. C. West Cliff School, Ramsgate.
 Maclure, J. K. International Univ. College, N.W.
 Maeers, C. A. Eltham College, Kent.
 Mayhead, B. S. Malden College, New Malden.
 Millen, H. S. East Dulwich Grammar School.
 Morris, T. C. Ludlow Grammar School.
 Morris, W. L. All Saints' School, Bloxham.
 Morley, T. E. Margate College.
 Northcote, H. Eltham College, Kent.
 Oakley, J. W. Rutland County S., Uppingham.
 Oldham, A. P. Towcester Grammar School.
 Pike, W. H. Lewis' School, Gelligaer.
 Richardson, W. F. Whitworth School, Derby.
 Rose, E. C. Oxford House School, Brighton.
 Secretan, H. G. Anerley College, S.E.
 Shears, P. M. South Hackney College, N.E.
 Sheppard, H. E. New College, Margate.
 Spilsbury, A. W. Queen's College, Taunton.
 Sprott, H. T. Seaford College.
 Stanley, L. A. New College, Margate.
 Suthers, L. Wellington School, Heaton Chapel.
 Thomson, R. Enfield Grammar School.
 Tregarthen, G. H. Marlboro' Coll. S., Tuebrook, L'pool.
 Underhill, H. J. R. Beaumont House School, Jersey.
 West, C. Castle Hill School, Reading.
 Whitaker, B. The Academy, Wakefield.
 Wood, M. S. Brooklands School, Sale.
 Wordsworth, J. W. Mead House S., Biggleswade.
 Wray, P. Durham House S., Clapham Comm.
- Arnold, C. H. South Pallant, Chichester.
 Baber, F. H. Redland Grove College, Bristol.
 Botten, E. E. Uckfield Grammar School.
 Bradford, R. H. Eastbourne Boys' School.
 Brown, S. S. Oakes' Institute, Liverpool.
 Caton, J. W. Mead House School, Biggleswade.
 Cave, H. Upton School, Slough.
 Cazaly, C. Stoke Newington Grammar School.
 Collyer, W. J. Ryde House, Ripley, Surrey.
 Davis, E. D. Queen's College, Taunton.
 Dawson, L. Goole Grammar School.
 Dulling, G. H. Exmouth College.
 Eastman, R. Ascham College, Clacton-on-Sea.
 Farran, A. Hart House School, Tregoney.
 Frantum, P. Breydon House, Bournemouth.
 Gallop, G. A. Emanuel S., Wandsworth Common.
 Garner, W. Warehousemen & Clerks' S., Purley.
 Good, P. Ongar Grammar School.
 Greenhalgh, N. W. Hindley Grammar School, Wigan.
 Griffiths, B. C. Dane Hill School, Margate.
 Heywood, E. S. Northgate Schools, Lincoln.
 Hogarth, F. W. Collegiate School, Morecambe.
 Hopkinson, W. R. Ashley House School, Worksop.
 Jenkin, R. S. The School, Llandover.
 Kelly, S. Oakes Institute, Liverpool.
- Maudsley, J. Royal Gram. S., Kirkby Lonsdale.
 Mellin, E. H. Eltham College, Kent.
 Mitchell, E. V. 7 Sussex Square, Brighton.
 Morel, R. E. Queen's College, Taunton.
 Naish, A. J. Kent College, Canterbury.
 Norton, A. G. D'Eresby House S., Ealing Common.
 Osmond, R. C. Nelson College, Lee.
 Peters, J. Polytechnic Intermediate S., W.
 Pezzaek, W. C. Commercial School, Penzance.
 Pitt, M. R. Southampton Boys' College.
 Roberts, A. J. Ludlow Grammar School.
 Stevenson, C. G. Trafalgar House S., Winchester.
 Stracey, A. Bishop Stortford Collegiate S.
 Townend, G. E. Doncaster Grammar School.
 Trimming, H. Anglesea House S., St. Mary Cray.
 Underhill, T. East Cornwall College, Liskeard.
 Vanner, J. H. The Douglas School, Cheltenham.
 Vye, L. Kurnella, Bournemouth.
 Watson, G. J. Western College, Harrogate.
 Webb, T. G. Towcester Grammar School.
 Williams, J. N. Oxenford House School, Jersey.
 Woodburn, W. H. Sydenham College, S.E.
 Woodhouse, R. Royal Gram. S., Kirkby Lonsdale.
- Anthony, N. C. Trinity College, Harrogate.
 Atkinson, A. W. Warehousemen & Clerks' S., Purley.
 Bradbury, E. Ascham College, Clacton-on-Sea.
 Barker, G. B. Cloughton Coll. S., Birkenhead.
 Bartlett, L. J. Theobald's Gram. S., Needham Mkt.
 Battershill, S. G. Brooklyn House School, Dawlish.
 Burnett, J. J. Doncaster Grammar School.
 Catley, A. J. Kendrick Boys' School, Reading.
 Chenoweth, J. Hart House School, Tregoney.
 Clarke, C. A. Farnham Grammar School.
 Cottrill, W. S. Pine House, Wincanton.
 Cowie, H. Hull and East Riding College.
 Cummins, H. G. Farnham Grammar School.
 Day, H. 2 Garway Road, Bayswater.
 De Wolf, J. S. Balham School.
 Dunn, J. E. P. Hayle Grammar School, Cornwall.
 Erwin, H. Eastbourne Old School.
 Fisher, A. Collegiate School, Llandudno.
 Fisher, W. J. High School, Barnsley.
 Grist, P. J. Wilsford House School, Devizes.
 Harding, S. N. Castle School, Guildford.
 Hill, R. Hull and East Riding College.
 James, E. Goole Grammar School.
 Jones, W. H. The Academy, Llandilo.
 Leask, J. A. Gravesend Proprietary School.
 Loveday, L. E. German & French Coll., Wandsworth.
 Lyne, A. J. Warehousemen & Clerks' S., Purley.
 May, E. Springfield College, Acton Hill.
 Moncaster, J. R. Epworth College, Rhyll.
 Morgan, W. Hull and East Riding College.
 Moses, E. P. Southampton Boys' College.
 Newson, C. Carrington Lodge, Richmond, S.W.
 Pine, H. E. A. Bellevue School, Southampton.
 Pollard, E. A. Hart House School, Tregoney.
 Richardson, H. Bolton High School for Boys.
 Sanderson, H. II. S. George's Hall S., Stockton-on-Tees.
 Stickland, W. Castle Hill School, Ealing.
 Smallwood, S. Commercial College, York.
 Smyrke, S. E. Horsham College.
 Southan, G. E. H. Middle Class S., Weston-s.-Mare.
 Spinks, A. K. Retford Grammar School.
 Teece, G. H. Elmfield College, York.
 Tupman, L. C. Pomfret College, Pontefract.
 Turner, H. H. Modern School, Woking.
 Viney, H. Polytechnic Intermediate S., W.
 Ward, W. J. Byron House & Ealing Grammar S.
 Ward, Y. Stoke Preparatory S., Devonport.
 Willis, V. G. Milton College, Ullesthorpe.
 Wilson, A. H. Hull and East Riding College.
- Anns, L. G. Grammar School, Sudbury, Suffolk.
 Appleton, R. Hull and East Riding College.
 Baker, F. Uxbridge Preparatory School.
 Belsham, H. N. Henley House S., St. John's Wood.
 Bentley, A. St. John's Choir School, Torquay.
 Boden, G. E. Burnside School, Ilkley.
 Boyd, H. C. Summerfield School, Sheffield.
 Carr, R. M. Baxham Grammar S., Attleboro'.
 Chaplin, W. A. Tudor Hall, Hawkhurst.
 Cockrill, H. W. Winchester House, Gt. Yarmouth.
 Collings, W. S. Lewis' School, Gelligaer.
 Cooper, J. W. Oakes Institute, Liverpool.
 Cutler, W. E. International Univ. College, N.W.
 Dall, E. D. West Cliff Preparatory S., Preston.
 Darracont, F. R. Kent College, Canterbury.
 Edwards, A. C. Royal Gram. S., Kirkby Lonsdale.
 Gibson, W. S. Eton House, Hull.
 Gillies, J. N. Summerfield School, Sheffield.
 Gough, A. S. Epworth College, Rhyll.
 Gould, C. V. Bournemouth High S. for Boys.
 Gray, N. H. Commercial S., Downham Market.
 Gurney, N. Uxbridge Preparatory School.
 Hague, T. Collegiate School, Llandudno.
 Hall, F. Goole Grammar School.
 Hollingshead, G. W. L. Byron House & Ealing Gram. S.
 Ingman, A. M. Bickerton House School, Birkdale.
 James, E. A. Trafalgar House S., Winchester.
 James, H. E. Highfield School, Chertsey.
 Jennings, W. J. Acton Commercial School.
 Jesse, W. E. Eltham College, Kent.
 Jewell, O. The Douglas School, Cheltenham.
 Jones, P. M. International Univ. College, N.W.
 Jull, J. T. Claremont House, Wateringbury.
 Langdon, W. H. Private tuition.
 Last, R. C. Guildhall Mid. S., Bury St. Edmunds.
 McKenzie, E. J. Southampton Boys' College.
 Parkes, H. C. High School, Smethwick.
 Parkes, J. B. B. C. Bourne Coll., Quinton, Birmingham.
 Phillips, E. H. Middle Class S., Weston-s.-Mare.
 Quinton, P. J. Theobald's Gram. S., Needham Mkt.
 Sargent, J. P. Central School, Barnstaple.

BOYS, THIRD CLASS—Continued.

Smith, W. S. High School, Sutton, Surrey.
 Stone, F. W. Southamton Boys' College.
 Stubbs, E. C. Etonhurst, Weston-super-Mare.
 Thom, A. Henley House S., St. John's Wood.
 Thornton, W. M. Castle School, Guildford.
 Wilson, G. A. Warbreck Coll., Aintree, Liverpool.
 Barefoot, R. G. J. Kendrick Boys' School, Reading.
 Barry, E. St. Mary's Hall, Cardiff.
 Bayley, H. Birkdale Preparatory School.
 Beardsall, F. High School, Ashton-on-Mersey.
 Bell, C. W. Argyle House School, Sunderland.
 Bennett, L. Wimbeldon Collegiate School.
 Berkeley, C. Gravesend Proprietary School.
 Brown, H. A. V. Emanuel S., Wandsworth Common.
 Burnell, R. N. Warehousemen & Clerks' S., Purley.
 Cole, H. B. Corsham School.
 Cooke, P. J. Private tuition.
 Croxson, W. J. Brunswick House School, Windsor.
 Curgeneu, P. B. Osborne House, Margate.
 Curtis, A. H. Worthing Grammar School.
 Daldorf, H. A. Highbury House S., St. Leonards.
 Davies, E. Victoria College, Congleton.
 Davies, G. W. Reading Collegiate School.
 Dye, W. A. Brooklands School, Sale.
 Eagles, W. A. Sydenham House, Leamington.
 Edwards, F. Southamton Boys' College.
 Evans, J. W. St. Asaph Grammar School.
 Everall, T. H. Ludlow Grammar School.
 Grist, P. A. Exmouth College.
 Hagger, G. J. Middleton School, Bognor.
 Hampson, W. Catholic Coll. Inst., Manchester.
 Heald, G. Northgate Schools, Lincoln.
 Hollinrake, F. D. Elmfield College, York.
 Hughes, F. G. Bilton Grange School, Harrogate.
 Hoyland, H. Ashley House School, Worksop.
 Joel, A. W. Gravesend Proprietary School.
 Jones, C. W. Wellingborough Grammar School.
 Knight, S. International Univ. Coll., N.W.
 Lett, H. Wykeham Ho. S., Priory Rd., N.W.
 Lowe, M. A. Sydenham College, S.E.
 Lowe, W. T. South Hackney College, N.E.
 Mason, E. Battersea Grammar School, S.W.
 Mortimer, W. E. All Saints' School, Bloxham.
 Nathan, E. Portsdown High S., Maida Vale.
 Newman, R. H. Handel College, Southampton.
 Parmeter, T. P. Mintholme House S., Southport.
 Parsons, D. A. L. S. George's Hall S., Stockton-on-Tees.
 Roberts, W. O. Kent College, Canterbury.
 Robertshaw, W. L. Western College, Harrogate.
 Robinson, J. Laurel Bank S., Higher Broughton.
 Scudamore, F. H. Lneton School, Herefordshire.
 Seed, W. C. Towcester Grammar School.
 Sherburn, A. Goole Grammar School.
 Smith, A. W. Redland Grove College, Bristol.
 Smith, W. G. Commercial School, Bognor.
 Stenlake, R. East Cornwall College, Liskeard.
 Stone, F. C. Stanwell House S., Brondesbury.
 Tuxford, A. Northgate Schools, Lincoln.
 White, F. J. Commercial College, York.
 Adam, E. M. Fairleigh School, Weston-s-Mare.
 Atkins, W. Commercial S., Stratford-on-Avon.
 Bean, H. W. Commercial S., Stratford-on-Avon.
 Behenna, S. N. Harleigh House, Bodmin.
 Bolding, F. A. A. New College, Margate.
 Brice, A. H. Milton College, Ullesthorpe.
 Brew, J. G. Private tuition.
 Brookes, J. H. Brooklands School, Sale.
 Carrick, C. Hull and East Riding College.
 Carter, H. Gravesend Proprietary School.
 Coomb, C. H. Springfield College, Aetion Hill.
 Cumming, L. Guildhall Mid. S., Bury St. Edmunds.
 Cundy, A. Alpertown College, Sudbury.
 Faulkingham, R. Ousegate School, Selby.
 Fergusson, C. Milton Abbas School, Blandford.
 Fortescue, J. Surrey House School, Margate.
 Gantillon, J. U. I. High School, Barnsley.
 Geddie, J. S. Acerrington Collegiate School.
 Griffiths, W. S. Lewis' School, Gelligaer.
 Grigsby, A. W. Reading Collegiate School.
 Holgate, L. O. Elmfield College, York.
 Hopkin, E. S. East Bridgford Academy, Notts.
 Ironside, H. A. Sutton Park School, Surrey.
 Jones, C. E. M. West Kent Grammar S., Brockley.
 Lewis, E. S. Ludlow Grammar School.
 Little, A. The Crossley & Porter S., Halifax.
 Mackintosh, G. H. T. The Modern School, Thirsk.
 Merryweather, C. W. Retford Grammar School.
 Metcalf, B. St. Mary's Hall, Cardiff.
 Mitchell, H. W. Farnham Grammar School.
 Morrison, R. H. St. George's College, Eastbourne.
 Offer, G. W. Portway High School, Bath.
 Pointon, H. G. Dagnar House School, Hatfield.
 Saunders, W. C. P. Moorlands School, Bournemouth.
 Snell, S. R. East Cornwall College, Liskeard.
 Stovin, F. Grammar School, Burford, Oxon.
 Stubberfield, H. Dudley House, Lee, S.E.
 Thomas, G. P. Byron House & Ealing Grammar S.
 Town, B. C. Gunnersbury College.
 Tricker, A. Skelsmergh House S., Margate.
 Waddington, W. The Grammar School, Mirfield.
 Ward, J. Farnham Grammar School.
 Watts, A. H. Private tuition.
 Weightman, C. H. West Kent Grammar S., Brockley.
 Went, R. D. Campbell House School, Bristol.
 White, W. Brunswick House S., Windsor.
 Wilson, C. Oakes Institute, Liverpool.
 Wilthew, T. N. Sandyford Acad., Newcastle-on-T.
 Wormwell, G. A. Royal Gram. S., Kirkby Lonsdale.

THIRD CLASS.—3RD DIVISION.

Annesley, P. de V. Osborne House, Margate.
 Bailey, W. C. Clare House, Hull.

Barker, R. D. St. George's College, Eastbourne.
 Barnicott, J. W. Kent College, Canterbury.
 Barton, H. E. Stoke Newington Grammar School.
 Blackmore, A. E. Exmouth College.
 Blackmore, H. Exmouth College.
 Bettes, F. E. Northgate Schools, Lincoln.
 Brown, E. T. Portway High School, Bath.
 Brown, J. B. Wellingborough Grammar School.
 Cattell, C. L. Herne House, Margate.
 Chandler, G. B. Boys' High School, Freemantle.
 Charter, G. H. Kent College, Canterbury.
 Clay, L. Halifax New School.
 Corner, E. Kendrick Boys' School, Reading.
 Cowper, G. R. Caversham House School, Reading.
 Edwards, I. Lewis' School, Gelligaer.
 Elyard, F. J. All Saints' School, Bloxham.
 Finch, J. C. Wilson College, Stamford Hill.
 Grech, A. E. International Univ. College, N.W.
 Green, T. Emanuel S., Wandsworth Common.
 Grier, J. The Grammar S., South Shields.
 Griffiths, J. Chepstow Grammar School.
 Griffiths, T. C. High School, Merthyr Tydfil.
 Hagger, A. J. Middleton School, Bognor.
 Hall, C. M. Wallingford Grammar School.
 Hall, S. W. Eagle House, St. Leonards-on-Sea.
 Hamilton, W. A. Retford Grammar School.
 Harris, J. R. Kurnella, Bournemouth.
 Hodgkinson, R. Claremont College, Blackpool.
 James, C. Wellingborough Grammar School.
 James, R. A. Commercial School, Penzance.
 Leckey, A. M. Holmwood, Bexhill.
 Loder, A. C. Malden College, New Malden.
 Mainwaring, S. C. Ludlow Grammar School.
 McEwen, G. E. East Cornwall College, Liskeard.
 Meyer, F. J. Western College, Harrogate.
 Musgrave, B. Leylands School, Hornsea.
 Platten, A. E. St. George's College, Eastbourne.
 Randall, J. R. Mannam School, Plymouth.
 Redman, W. Brandon Villa, New Leeds.
 Ridgers, B. J. Ryde House, Ripley, Surrey.
 Ross, W. E. Ludlow Grammar School.
 Sannels, J. Norman Rd. School, Manchester.
 Smailes, G. K. Hull and East Riding College.
 Smailes, S. Hull and East Riding College.
 Spooner, S. Snettisham School, King's Lynn.
 Stansmore, H. T. Stoke Newington Grammar School.
 Webster, W. V. Putney School.
 Westaway, G. F. Mount Radford School, Exeter.
 Winn, L. Thornton House School, Redruth.

Alderwick, G. H. Burnside School, Ilkley.
 Ayre, W. S. Kent College, Canterbury.
 Backhouse, A. H. Trafalgar House S., Winchester.
 Bedell, A. W. Brooklands School, Sale.
 Belfield, J. W. Victoria College, Congleton.
 Bielski, C. O. Queen's College, Taunton.
 Bramall, G. Ashley House School, Worksop.
 Cane, H. Wellingborough Grammar School.
 Chambers, C. T. Emanuel S., Wandsworth Common.
 Clibborn, W. B. Clanghton Coll. S., Birkenhead.
 Croisdale, H. Western College, Harrogate.
 Dand, H. J. Clewer House School, Windsor.
 Dresser, T. K. Balham School.
 Drysdale, G. F. Kurnella, Bournemouth.
 Earl, E. St. Mary's Hall, Cardiff.
 Emery, E. Towcester Grammar School.
 Farley, D. Ousegate School, Selby.
 Graham, W. Salway House Collegiate S., Leyton.
 Grover, H. F. Park Hurst School, Buxton.
 Hinton, J. H. Emanuel S., Wandsworth Common.
 Hogan, J. P. 38 Tavistock Place, Plymouth.
 Hopkins, D. J. Malden College, New Malden.
 Hoyle, T. H. St. Asaph Grammar School.
 Humphries, W. G. The Douglas School, Cheltenham.
 Keeling, A. S. Private tuition.
 Kenyon, M. Acerrington Collegiate School.
 Lees, J. T. Victoria College, Congleton.
 Leonard, F. A. Hull and East Riding College.
 Obegi, V. J. Brooklands School, Sale.
 Palmer, W. M. Stanley House, Margate.
 Parker, T. R. The Tattenhall Schools, Chester.
 Pickering, C. J. E. Western College, Harrogate.
 Powell, J. G. Clyde House, Hereford.
 Renwick, W. H. A. Corsham School.
 Roberts, H. E. High School, Monk Gate, York.
 Robilliard, G. High School, Ashton-on-Mersey.
 Rock, C. B. F. L. Hope House School, Southsea.
 Roper, J. St. Mary's Hall, Cardiff.
 Sellwood, G. S. Reading Collegiate School.
 Smith, E. B. All Saints' School, Bloxham.
 Staple, W. J. Pine House, Wincanton.
 Tinton, W. Heaton Moor Coll., Heaton Chapel.
 Walters, A. H. Kent College, Canterbury.
 Williams, C. R. Harleigh House, Bodmin.
 Woodfindin, F. Royston Grammar School.

Bennett, I. Uxbridge Preparatory School.
 Bennett, N. D. Ashville College, Harrogate.
 Blackmore, P. Exmouth College.
 Bowman, P. C. Kendrick Boys' School, Reading.
 Buchan, P. A. St. John's Hospital S., Exeter.
 Burg, H. Oxenford House School, Jersey.
 Chapman, F. T. Mount Radford School, Exeter.
 Colman, R. O. Dane Hill School, Margate.
 Cooper, A. E. Victoria College, Congleton.
 Cope, A. Lulworth House S., Caerleon, Mon.
 Corker, A. East Cliff House, Gram. S., Margate.
 Custerson, S. J. Cowper's House S., Huntingdon.
 Dixon, N. C. Northgate Schools, Lincoln.
 Drake, H. J. Margate College.
 Dudley, E. W. Elmfield College, York.
 Elliott, W. H. Ludlow Grammar School.
 Frampton, F. Upton School, Slough.
 Gale, W. J. Middle Class S., Weston-s-Mare.

Graham, J. L. Ongar Grammar School.
 Hellyer, W. W. Hoe Grammar School, Plymouth.
 Hepworth, G. M. Headingley Hill School, Leeds.
 Hillier, W. J. Byron House & Ealing Grammar S.
 Hodgins, F. J. Modern School, Woking.
 Hodson, W. Bickerton House School, Birkdale.
 Hooper, E. R. Northgate S., Bury St. Edmunds.
 James, E. S. Parkhurst College, New Southgate.
 Jones, R. Ludlow Grammar School.
 Lasseter, W. L. Manor House School, Havant.
 Lawson, H. O. Hull and East Riding College.
 Lee, W. S. Kent College, Canterbury.
 Lindley, L. R. Dagnar House School, Hatfield.
 Mitchell, H. D. Oakes Institute, Liverpool.
 Norieza, U. Warbreck Coll., Aintree, Liverpool.
 O'Neill, F. W. Mannam School, Plymouth.
 Oyston, H. G. Summerfield School, Sheffield.
 Papworth, A. W. Margate College.
 Peacock, R. The King's Lynn Grammar School.
 Ponking, E. C. Highbury House S., St. Leonards.
 Rayner, G. St. Augustine's Gram. S., Dewsbury.
 Roach, C. C. All Saints' School, Bloxham.
 Robinson, J. A. St. Asaph Grammar School.
 Scarlett, H. S. Uckfield Grammar School.
 Sharpley, C. W. Mead House School, Biggleswade.
 Smith, J. Farnworth Grammar School.
 Stimpson, L. Thirsk High School.
 Thomas, C. Commercial School, Penzance.
 Thompson, W. Commercial College, York.
 Thornback, A. H. Handel College, Southampton.
 Todd, H. E. All Saints' School, Bloxham.
 Tonks, W. C. Commercial S., Stratford-on-Avon.
 Waller, R. L. All Saints' School, Bloxham.
 Wybrow, S. H. Margate College.
 Zachmsdorf, E. J. Uckfield Grammar School.

Barber, J. Bourne Coll., Quinton, Birmingham.
 Barney, W. E. International Univ. College, N.W.
 Bennett, L. Hillsboro', Frodsham.
 Bertram, T. C. Carlton House School, Jersey.
 Bird, R. M. Merton House S., Penmaenmawr.
 Bradley, N. J. Theobald's Gram. S., Needham Mkt.
 Chapman, N. G. East Dulwich Grammar School.
 D'Aguilar, J. B. S. Hermitage School, Bath.
 Deslandes, P. Holloway College, N.
 De Wolf, G. Le B. Balham School.
 Doncaster, C. H. Retford Grammar School.
 Doughty, W. A. Gravesend Proprietary School.
 Fowles, R. L. Battersea Grammar School, S.W.
 Gelsthorpe, G. H. Warehousemen & Clerks' S., Purley.
 Harrison, L. Victoria College, Congleton.
 Harvey, E. A. Portway High School, Bath.
 Hammill, C. R. All Saints' School, Bloxham.
 Hill, M. W. All Saints' School, Bloxham.
 Hills, P. V. Grammar School, Sudbury, Suffolk.
 Judd, S. H. Gravesend Proprietary School.
 Kemp, F. Thirsk High School.
 Landon, A. R. Surrey House School, Margate.
 Leighton, J. W. Oakes Institute, Liverpool.
 Loe, W. E. Farnham Grammar School.
 Meredith, S. G. Hope House School, Southsea.
 Mitchell, E. L. Thorne Grammar S., Doncaster.
 Nuthall, A. Heaton Moor Coll., Heaton Chapel.
 Pass, G. Portsdown High S., Maida Vale.
 Paul, A. R. Byron House & Ealing Grammar S.
 Payne, B. M. Warbreck Coll., Aintree, Liverpool.
 Pinchen, C. G. International Univ. College, N.W.
 Pomeroy, H. Polytechnic Intermediate S., W.
 Potter, F. N. St. Edmund's College, Birmingham.
 Potcher, W. West Brighton Grammar School.
 Reed, C. Taunton Trade S., Southampton.
 Sabin, G. T. St. Leonards Collegiate School.
 Salter, F. Theobald's College, Waltham Cross.
 Silk, H. V. Grammar School, Burford, Oxon.
 Skelton, E. R. The College School, Baldoak.
 Slater, V. Stamford Hill Collegiate School.
 Smallman, S. G. Henley House S., St. John's Wood.
 Sommerville, R. W. Temple College, Forest Gate, E.
 Stoddart, H. E. Amhurst Park College, N.
 Terry, J. E. Oxenford House School, Jersey.
 Van Praagh, C. R. Tivoli House School, Gravesend.
 Watton, T. P. Ashville College, Harrogate.
 Wheeler, L. C. Castle School, Guildford.
 Whereat, K. W. Sydenham College, S.E.

Aldworth, F. Breydon House, Bournemouth.
 Allen, J. B. New College, Margate.
 Barnard, D. Tivoli House School, Gravesend.
 Blair, W. H. Elmfield College, York.
 Boyce, T. S. The College, Herne Bay.
 Bramble, G. O. The Lawn School, St. Ansell.
 Brown, D. F. Apsley House School, Margate.
 Brunner, J. R. St. Helen's College, Southsea.
 Campbell, A. E. Brooklands School, Sale.
 Cazaly, G. Stoke Newington Grammar School.
 Chapman, A. E. Borough Collegiate S., Rotherham.
 Clayton, A. E. Battersea Grammar School, S.W.
 Cooper, W. F. Victoria College, Congleton.
 Cornforth, J. Bilton Grange School, Harrogate.
 Cox, C. Shrewsbury College.
 Dodds, S. R. Clanghton Coll. S., Birkenhead.
 Evans, W. J. Lewis' School, Gelligaer.
 Foster, S. H. Grammar School, Burford, Oxon.
 Foster, T. W. Castle Hill School, Reading.
 Giddings, W. J. Bourne Coll., Quinton, Birmingham.
 Greenwood, R. Thornton Heath School, S.E.
 Harton, A. S. Grove House S., Tunbridge Wells.
 Hayne, F. J. Handel College, Southampton.
 Howson, J. Collegiate School, Morecambe.
 Huxley, J. E. Private tuition.
 Jones, W. Shrewsbury College.
 Layton, G. Norton College, Luton.
 Leonard, T. Hull and East Riding College.
 Lucas, A. E. Southern College, Harrogate.

BOYS, THIRD CLASS—Continued.

Lynn, A. C. Hindley Grammar School, Wigan.
 Malek, R. J. St. George's College, Eastbourne.
 Mattinson, W. B. Royal Gram. S., Kirkby Lonsdale.
 McLaren, W. M. High School, Fairfield, Liverpool.
 Merryweather, J. C. Retford Grammar School.
 Milner, W. E. All Saints' School, Bloxham.
 Nicholas, P. Salway House, Collegiate S., Leyton.
 Richardson, R. F. Buxton College, Stratford.
 Rider, J. P. Brandon Villa, New Leeds.
 Rowe, J. B. Private tuition.
 Sanders, F. G. Stanwell House S., Brondesbury.
 Smith, A. H. Stoke Newington Grammar School.
 Swallow, A. R. Halifax New School.
 Taylor, W. Kurnella, Bournemouth.
 Thomson, D. MacN. High School, Fairfield, Liverpool.
 Ward, J. D. C. Private tuition.
 Williams, W. R. O. Llandudno College.
 Wright, P. W. Chepstow Grammar School.

Allen, A. W. Gravesend Proprietary School.
 Arlidge, G. E. Waterloo College, Northampton.
 Baker, A. Margate College.
 Blacker, H. R. Doncaster Grammar School.
 Blake, O. Private tuition.
 Brooks, W. A. Arnold House S., West Brighton.
 Dobie, R. Ashford House School, Birkenhead.
 Evans, R. S. St. Asaph Grammar School.
 Gardner, H. C. Catford Collegiate School, S.E.
 Gelder, A. E. Elmfield College, York.
 Gilling, E. Ashley House School, Worksop.
 Gilkes, O. W. Wallingford Grammar School.
 Grant, W. E. Trinity College, Harrogate.
 Gyles, S. G. West Cliff School, Ramsgate.
 Harthan, E. J. Old Trafford School, Manchester.
 Hellon, F. W. Warbreck Coll., Aintree, Liverpool.
 Hemmeh, W. E. Private tuition.
 Howe, F. R. Halbrake S., Wandsworth Comm.
 Jarman, W. F. Ryde House, Ripley, Surrey.
 Johnson, S. L. Milton College, Ulesthorne.
 Lewis, J. Commercial S., Stratford-on-Avon.
 Noakes, H. E. Southdown College, Eastbourne.
 O'Neill, C. The Grammar School, Eecles.
 Palmer, F. E. Stanley House, Margate.
 Peacock, W. L. The King's Lynn Grammar School.
 Reeves, N. G. Middle Class S., Weston-s.-Mare.
 Robinson, N. The College, Gildersome.
 Rowe, H. R. Epworth College, Rhyll.
 Skillings, T. Byron House & Ealing Grammar S.
 Smith, T. C. St. Austell School.
 Stephens, J. Hart House School, Tregoney.
 Sweetman, H. W. Pine House, Wineanton.
 Thompson, R. S. Kent College, Canterbury.
 Tiggardine, W. Royston Grammar School.
 Tilling, G. E. Southampton Boys' College.
 Unwin, C. H. Henley House S., St. John's Wood.
 Veitch, S. N. Old Elvet School, Durham.
 White, G. F. C. 38 Gloucester St., Belgrave Rd., S.W.
 Wilson, R. Gainford School, Darlington.
 Wood, N. Hipperholme Grammar School.
 Woodruff, W. G. Balham School.
 Worthington, R. E. Newton School, Rock Ferry.

Allen, M. H. Gravesend Proprietary School.
 Armitage, A. Hipperholme Grammar School.
 Bannerman, H. Bickerton House School, Birkdale.
 Boothby, T. P. The College School, Baldoek.
 Brown, A. J. High Street, Walton-on-Thames.
 Brown, F. H. Holmwood, Bexhill.
 Bullingham, H. B. Retford Grammar School.
 Capes, C. Putney School.
 Chapman, F. Cowper's House S., Huntingdon.
 Deane, H. S. German & French Coll., Wandsworth.
 Dewing, P. E. Belle Vue House School, Norwich.
 Driffield, H. Ellesmere School, Harrogate.
 Edwards, D. L. All Saints' School, Bloxham.
 Ferrier-Rowe, E. Uckfield Grammar School.
 Gabell, R. H. Castle School, Guildford.
 Glass, H. Kendrick Boys' School, Reading.
 Hooper, L. A. The College, Herne Bay.
 Howell, J. B. 3 Belgrave Villas, Lee, S.E.
 Mallow, M. Banerott House School, Hitchin.
 Moses, D. Tivoli House School, Gravesend.
 Northam, R. M. Handel College, Southampton.
 Oldroyd, P. M. Royston Grammar School.
 Pegram, R. Craigside Coll. S., Tattenhall.
 Pepper, F. E. Wellesley College, Nottingham.
 Petty, J. P. Headingley Hill School, Leeds.
 Sayer, C. W. Oxenford House School, Jersey.
 Scott, A. A. Arundel House School, Surbiton.
 Smith, G. E. Newton School, Rock Ferry.
 Stokes, A. W. Kendrick Boys' School, Reading.
 Storey, A. G. Leylands School, Hornsea.
 Taylor, G. H. Kent College, Canterbury.
 Wheeler, J. C. Private tuition.
 Wilkinson, A. B. Ilgh School, Monkgate, York.
 Wilkinson, H. Western College, Harrogate.
 Viret, F. M. Northgate S., Bury St. Edmunds.

Anderson, K. G. Clare House School, Margate.
 Bell, G. W. Trinity College, Harrogate.
 Bloore, N. M. Priory Hill, Wolston, Coventry.
 Branford, P. Farnham Grammar School.
 Brookes, L. R. Llandudno College.
 Dunphy, A. Collegiate School, Llandudno.
 Edwards, G. S. Eltham College, Kent.
 Edmonds, F. C. Commercial School, Penzance.
 Goldberg, S. Tivoli House School, Gravesend.
 Hanson, S. Royston Grammar School.
 Hart, J. Beanfort College, St. Leonards.
 Herbert, T. Upton School, Slough.
 Hewitt, S. G. Cloughton Coll. S., Birkenhead.
 Koser, H. P. Hull and East Riding College.
 Lann, R. O. Handel College, Southampton.

Lyle, T. F. Queen's College, Taunton.
 Macaulay, E. Paignton School.
 Macnab, A. D. Henley House S., St. John's Wood.
 Nicholson, A. O. Newton School, Rock Ferry.
 Paton, R. J. St. Leonards Collegiate School.
 Peacock, J. C. M. S. George's Hall S., Stockton-on-Tees.
 Platt, E. McC. Woolston College, Southampton.
 Richards, P. East Cornwall College, Liskeard.
 Rose, A. R. Catford Collegiate School, S.E.
 Rowland, C. C. Arlington Park College, Chiswick.
 Sirett, H. A. Grammar School, Burford, Oxon.
 Stedall, F. H. Balham School.
 Swale, R. Claremont College, Blackpool.
 Swale, G. Cathedral Choir School, Ripon.
 Swinyard, W. C. Stanley House, Margate.
 Syed, H. Liverpool Moslem College.
 Wake, A. Onsegate School, Selby.
 Wiggins, F. C. Grammar School, Burford, Oxon.

Aldwinckle, G. J. Sydenham College, S.E.
 Audsley, G. H. The Academy, Wakefield.
 Barton, C. R. Private tuition.
 Barrett, W. Elmfield College, York.
 Bellamy, P. T. Clyde House, Hereford.
 Blair, J. E. Private tuition.
 Brickell, J. Byron House & Ealing Grammar S.
 Cawston, E. W. Caversham House School, Reading.
 Codner, W. F. Queen's College, Taunton.
 Crabtree, R. W. Potternewton College, New Leeds.
 Dawing, E. J. The Collegiate School, Grimsby.
 Dunn, H. J. W. Upperton College, Eastbourne.
 Eggleton, H. S. Kendrick Boys' School, Reading.
 Fairclough, H. B. The Grammar School, Mirfield.
 Fitz-Hugh, H. Newton School, Rock Ferry.
 Gill, F. M. New College, Margate.
 Hatton, H. C. Clyde House, Hereford.
 Hocking, E. L. Ashville College, Harrogate.
 Hollands, C. R. St. Leonards Collegiate School.
 Hull, W. E. Wellesley College, Nottingham.
 Ingram, D. International Univ. College, N.W.
 Jones, A. T. M. Lewis' School, Gelligaer.
 Jones, T. Clytha College, Newport, Mon.
 Joseph, R. Portsdown High School, Maida Vale.
 Kang, Nai Private tuition.
 Kendrick, S. H. Clewer House School, Windsor.
 Kershaw, J. C. Laurel Bank S., Higher Broughton.
 Locke, W. Claremont College, Blackpool.
 Marsh, P. H. 2 South Terrace, Dorchester.
 Ord, R. Old Elvet School, Durham.
 Perry, A. Wellingborough Grammar School.
 Pybomne, J. J. Sandyford Acad., Newcastle-on-T.
 Pyman, E. B. Etonhurst, Weston-super-Mare.
 Rahilly, J. M. B. Fairleigh School, Weston-s.-Mare.
 Rainey, A. P. Mount Radford School, Exeter.
 Randall, H. E. Manor House School, Havant.
 Reed, J. J. Leamington Collegiate School.
 Rich, C. S. 38 Gloucester St., Belgrave Rd., S.W.
 Russell, E. A. Margate College.
 Smith, T. C. Margate College.
 Stephenson, H. Northgate Schools, Lincoln.
 Ward, W. H. Northgate Schools, Lincoln.
 Wareing, C. H. Farnworth Grammar School.
 Wearing, R. Accrington Collegiate School.
 Wells, F. P. Dartford Grammar School.
 Williams, F. S. Hart House School, Tregoney.
 Wilson, H. C. Private tuition.

Adams, R. C. Dane Hill School, Margate.
 Aldis, C. J. St. Elphin's, Westgate-on-Sea.
 Altman, M. V. West Cliff School, Ramsgate.
 Barnard, P. Portsdown High S., Maida Vale.
 Bartlett, F. E. Winchester House, Bristol.
 Baverstock, P. M. Boys' Collegiate S., Aldershot.
 Beach, F. C. Emanuel S., Wandsworth Common.
 Beecroft, C. T. Kent College, Canterbury.
 Bramer, E. E. Ashley House School, Worksop.
 Bramble, G. T. Stamford Hill Collegiate School.
 Bone, R. R. Private tuition.
 Boys, G. Willow House College, Walsall.
 Cutting, J. B. Whitworth School, Derby.
 Cuthbert, J. C. German & French Coll. Wandsworth.
 Davey, J. B. Hull and East Riding College.
 Edwards, J. R. Kurnella, Bournemouth.
 Faucett, F. E. Wellesley College, Nottingham.
 Goddard, G. D. C. Collingwood House S., Paignton.
 Goddard, H. Salway House Collegiate S., Leyton.
 Glover, H. J. H. Middle Class S., Weston-s.-Mare.
 Greenwood, S. Halifax New School.
 Handley, O. W. St. George's College, Eastbourne.
 Harrington, F. J. Balham School.
 Hutehens, J. Hope House School, Southsea.
 Hoddinott, R. V. Reading Collegiate School.
 Johnson, J. V. Horsham College.
 Langellier, St. L. M. J. Herne House, Margate.
 LeMarquand, H. C. Oxenford House School, Jersey.
 Moreton, F. C. Holmwood, Bexhill.
 Robbins, J. Polytechnic Intermediate S., W.
 Roe, F. H. Whitworth School, Derby.
 Rowe, A. T. The Tattenhall Schools, Chester.
 Shairp, W. V. Eltham College, Kent.
 Short, C. Skelsmergh House S., Margate.
 Simons, E. Stamford Hill Collegiate School.
 Stephens, H. S. Oakes Institute, Liverpool.
 Thomas, G. Hart House School, Tregoney.
 Thorman, L. P. S. George's Hall S., Stockton-on-Tees.
 Tovey, H. B. Etonhurst, Weston-super-Mare.
 Trevanion, H. G. Bournemouth Commercial School.
 Tyler, H. H. Wellingborough Grammar School.
 Vaghan, W. H. Bourne Coll., Quinton, Birmingham.
 Willingham, W. Coole Grammar School.

Allen, W. J. Waterloo College, Northampton.
 Aviss, G. Norton College, Luton.
 Bailey, A. Heaton Moor Coll. Heaton Chapel.

Birch, J. W. Enfield Grammar School.
 Campbell, W. Margate College.
 Christopher, G. C. Formby & Freshfield High School.
 Cottman, W. J. 2 South Terrace, Dorchester.
 Coxon, W. Clytha College, Newport, Mon.
 Couves, C. C. Gravesend Proprietary School.
 Denton, R. W. Marlboro' Coll. S., Thebrook, L'pool.
 Edwards, C. The Priory, Kew.
 Flack, F. W. Stoke Newington Grammar School.
 Gradwell, H. S. High School, Barnsley.
 Johnson, S. T. Byron House & Ealing Grammar S.
 Kenyon, J. Rhodes House S., Manchester.
 Lake, S. Stoke Newington Grammar S.
 Langley, F. B. Summerfield School, Sheffield.
 Leggett, W. L. Theobald's Gram. S., Needham Mkt.
 Livermore, F. C. The College, Broadstairs.
 Long, W. H. Private tuition.
 Lord, F. Birkdale Preparatory School.
 Merton, A. S. Wykeham House S., Priory Rd., N.W.
 Millar, B. Seorton Grammar S., Darlington.
 Millington, W. J. Cambridge House School, Wigan.
 Nation, N. Salway House Collegiate S., Leyton.
 Newmark, B. L. Tivoli House School, Gravesend.
 Printer, E. F. Belle Vue House School, Norwich.
 Pybus, F. W. Commercial College, York.
 Quails, A. Cloughton College S., Birkenhead.
 Roberts, R. M. D. Osborne House, Margate.
 Remison, C. S. H. Belle Vue House School, Norwich.
 Saxelby, J. S. Hull and East Riding College.
 Scott, O. W. Victoria College, Congleton.
 Smith, D. H. Western College, Harrogate.
 Smith, G. V. High School, Sutton, Surrey.
 Street, P. Breydon House, Bournemouth.
 Taylor, F. A. C. Dagmar House School, Hatfield.
 Walser, C. J. "College," Uckfield.
 Wells, A. Ashley House School, Worksop.
 Williamson, J. Enfield College, York.
 Wood, G. B. Southern College, Harrogate.

Amos, G. E. Apsley House School, Margate.
 Ashton, H. Nelson College, Lee.
 Atkinson, F. J. Kent College, Canterbury.
 Ball, S. H. Henley House S., St. John's Wood.
 Brandreth, L. Private tuition.
 Buxton, J. B. Willow House College, Walsall.
 Chester, R. S. Osborne House, Margate.
 Dering, E. H. H. Tregarthyn House S., Brighton.
 Duncan, W. L. St. John's College, Southend.
 Ewer, E. S. Uxbridge Preparatory School.
 Fairhurst, R. Bickerton House S., Birkdale.
 Fisher, F. H. St. James' Collegiate S., Jersey.
 Fuller, W. R. West Brighton High School.
 Gaskin, A. C. T. Wellesley College, Nottingham.
 Gerrard, F. Collegiate School, Llandudno.
 Gilman, W. R. A. Accrington Collegiate School.
 Harding, P. Portway High School, Bath.
 Harpham, H. Sontholme School, Gainsborough.
 Hibberdine, E. Enfield Grammar School.
 Hipwell, H. R. Dagmar House School, Hatfield.
 Hooton, P. Oakes Institute, Liverpool.
 Hornby, H. S. George's Hall S., Stockton-on-Tees.
 James, W. C. Sycamore Hall S., Goldsithney.
 Johnson, J. P. Grammar S., Sudbury, Suffolk.
 Judge, F. E. International Univ. College, N.W.
 King, A. E. Belle Vue House School, Norwich.
 Lamb, J. Heaton Moor Coll., Heaton Chapel.
 Malcham, S. Westbourne Road S., Sheffield.
 Neill, W. Summerfield School, Sheffield.
 Palmer, H. Ashley House School, Worksop.
 Redhouse, A. E. The College School, Baldoek.
 Saiyut, M. R. Mannamoad School, Plymouth.
 Sanson, T. S. Stoke Newington Grammar School.
 Southgate, J. N. Stanley House, Margate.
 Stace, R. J. Manor House College, Hastings.
 Stevens, J. A. Harleigh House, Bodmin.
 Thomas, J. E. Lewis' School, Gelligaer.
 Topham, A. A. Margate College.
 Townsend, R. Grammar School, Burford, Oxon.
 Vosper, S. Mannamoad School, Plymouth.
 Wilkinson, A. H. Private tuition.
 Williams, D. H. Bilton Grange School, Harrogate.

Allen, H. G. Formby & Freshfield High School.
 Allen, R. Handel College, Southampton.
 Ashton, F. Hillsboro', Frodsham.
 Ayre, S. Norton College, Luton.
 Barnard, L. B. Tivoli House School, Gravesend.
 Boden, D. Brooklands School, Sale.
 Crawford, A. T. Stoke Newington Grammar School.
 Davison, F. V. J. Malden College, New Malden.
 Denner, B. P. Nevill House, Abergavenny.
 Dicks, J. Wellingborough Grammar School.
 Fox, J. W. Thorne Grammar S., Doncaster.
 Hall, G. C. Sydenham College, S.E.
 Harrison, W. C. Ashley House School, Worksop.
 Hemmings, C. J. St. Leonards Collegiate School.
 Hiam, P. F. Warehousemen & Clerks' S., Purley.
 Holmes, H. J. Battersea Grammar School, S.W.
 Holroyd, H. Brandon Villa, New Leeds.
 Johnson, B. R. Croad's School, King's Lynn.
 Jubb, A. V. Retford Grammar School.
 King, E. R. Wallingford Grammar School.
 Knight, R. M. Ealing Dean College.
 Lloyd, T. E. Margate College.
 Laycock, C. E. St. Martin's Gram. S., Scarborough.
 Levy, W. Tivoli House School, Gravesend.
 Mitchell, J. T. Manor House School, Havant.
 Munford, T. N. Greenway House School, Tiverton.
 Newitt, F. J. Towcester Grammar School.
 Pitt, W. D. Milton Villa School, Bexley Heath.
 Pullen, W. W. Sydenham College, S.E.
 Rayden, S. J. Herne House, Margate.
 Robinson, R. H. Snettisham School, King's Lynn.
 Silver, A. H. Reading Collegiate School.

BOYS, THIRD CLASS—Continued.

Smith, A. A.	Brunswick House School, Windsor.
Smith, T.	Oxford House School, Brighton.
Spencer, N. C.	Retford Grammar School.
Warren, T. M. O.	Hightfield School, Chertsey.
Wellesley, F. H. B.	Prætor House, Folkestone.
Whiddett, F. J.	Stoke Newington Grammar School.
Aldworth, B.	Breydon House, Bournemouth.
Bates, G.	Byron House & Ealing Grammar S.
Cattle, G. C.	Retford Grammar School.
Church, E.	Brooklands School, Sale.
Crookewit, J. H.	Holmewood, Bexhill.
Denton, L.	Hipperholme Grammar School.
Duncan, L. H.	Vernon College, Clapton.
Gallagher, J.	Catholic Coll. Institute, Manchester.
Goosey, W. T.	Margate College.
Hardy, W.	Uxbridge Preparatory School.
Hill, S. W.	Handel College, Southampton.
Holmes, H. O.	Battersea Grammar School, S.W.
Ingle, B.	Cowper's House S., Huntingdon.
Jacob, C. H.	Norton College, Luton.
James, A.	Lewis' School, Gelligaer.
Jarman, J.	Lewis' School, Gelligaer.
Kidson, R. T.	Western College, Harrogate.
Kirby, G. L.	Byron House & Ealing Grammar S.
Lanham, H. G.	Hope House School, Southsea.
Larkins, F. E.	Grammar School, Newton Abbot.
Lephard, P. E.	Oxford House School, Brighton.
Lunt, W. T.	Churchfield House, Runcorn.
McDiarmid, A. H.	International Univ. College, N.W.
Nichols, F.	The Modern School, Chichester.
North, J.	Commercial College, York.
Palmer, B.	Hope House School, Southsea.
Patience, A.	Dagmar House School, Hatfield.
Smith, A.	Caversham House School, Reading.
Stanbury, W. V.	Hoe Grammar School, Plymouth.
Swift, A.	Royston Grammar School.
Tonkin, T. H.	Harleigh House, Bodmin.
Willes, R.	All Saints' School, Bloxham.
Bean, C.	Eton House, Hull.
Bowman, A. W. W.	Gainford School, Darlington.
Brisley, R. C.	Margate College.
Burney, H. W.	Surrey House School, Margate.
Capon, H. U.	Theobald's Gram. S., Needham Mkrt.
Christmas, H. A.	Cowper's House S., Huntingdon.
Davis, A.	Beaufort College, St. Leonards.
Davis, F. H.	Cavendish School, Matlock Bank.
Derbyshire, J.	Elmfield College, York.
Drewett, E.	Ryde House, Ripley, Surrey.
Duff, H. F.	Doncaster Grammar School.
Duncan, W.	Horsham College.
Eaton, J. A.	Sydenham College, S.E.
Edward, J.	Catholic Coll. Institute, Manchester.
Fussell, F. W. G.	Arlington Park College, Chiswick.
Gibson, W. S.	Victoria College, Congleton.
Gilkes, J. A.	Nelson College, Lee.
Goldberg, M.	Tivoli House School, Gravesend.
Henson, A. T.	Wimbledon Collegiate School.
Hicks, G.	The Lawn School, St. Anstall.
Jones, W. G.	St. Asaph Grammar School.
Kidner, W.	Upton School, Slough.
Knowlson, F. J.	Commercial College, York.
Laslett, G.	Durham House S., Clapham Common.
Maypee, C. F.	Ealing Dean College.
McLay, W. J.	Ashford House School, Birkenhead.
Moates, E.	Norton College, Luton.
Ovey, W. C.	Polytechnic Intermediate S., W.
Peacock, R.	The Academy, Wakefield.
Preston, A.	Victoria College, Congleton.
Rees, J. A.	St. Asaph Grammar School.
Savery, W. H.	The College, Burnham, Somerset.
Scott, A.	Seorton Grammar S., Darlington.
Simpson, S. D.	Theobald's Gram. S., Needham Mkrt.
Sonthall, E.	Royston Grammar School.
Tanner, A. R.	West Brighton High School.
Tully, C.	Bilton Grange School, Harrogate.
Varney, E. W.	Farnham Grammar School.
Waterfield, H.	Norton College, Luton.
Woolfitt, W. C.	The Elms, Sutton-on-Trent.
Wright, L. C.	Bellevue School, Southampton.
Allder, A. C.	Catford Collegiate School, S.E.

Brown, R.	Epworth College, Rhyl.
Chadwick, J.	Shrewsbury College.
Chadwick, K. M.	Headingley Hill School, Leeds.
Davies, J. R.	Lewis' School, Gelligaer.
Edmondson, J. J.	Broughton S., Higher Broughton.
Fendick, H. W.	Margate College.
Fletcher, G. B.	Epworth College, Rhyl.
Goddard, A. W.	Collegiate School, Salisbury.
Holloway, A.	Chorlton House Acad., Leamington.
Holyland, R.	Ware Grammar School.
Hughes, P. J.	Margate College.
Jackson, F. W.	Wellingborough Grammar School.
Loveless, F. L.	St. Nicholas Comm. S., E. Derham.
Marsden, H. G.	International Univ. College, N.W.
Moore, W.	Nonconform. Gram. S., Bp. Stortford.
Nunn, W. H.	Castle School, Guildford.
Owen, W. G.	Towcester Grammar School.
Plimsall, T. R.	Hoe Grammar School, Plymouth.
Poulton, A. T.	Aceton Commercial School.
Sudbury, J.	Royston Grammar School.
Sutton, R. C.	Fairleigh S., Weston-super-Mare.
Stokes, W. G.	Kent College, Canterbury.
Topping, W.	Hart House School, Tregoney.
Wersels, H. W. D.	West Brighton High School.

Barton, B. H.	Upperton College, Eastbourne.
Bassett, R.	Emanuel S., Wandsworth Common.
Bateman, R. A.	Theobalds College, Waltham Cross.
Beadle, H. F.	Middleton School, Bognor.
Beardsley, A.	Cavendish School, Matlock Bank.
Beasley, G. St. Q.	Middleton School, Bognor.
Brighouse, G. A.	All Saints' School, Bloxham.
Collings, C. J.	Hope House School, Southsea.
Dixey, A. N.	Herne House, Margate.
Fearn, C. J.	International Univ. College, N.W.
Griffiths, D. P.	Lacton School, Herefordshire.
Halfpenny, C. J.	Shrewsbury College.
Humphreys, H. D.	Gravesend Proprietary School.
Kemp, C. W.	Trafalgar House S., Winchester.
Kilbee, C. H.	Grammar School, Burford, Oxon.
King, F. W.	N. London Collegiate School, N.W.
Langler, J. S.	Paignton College.
Maas, A. E.	Grammar School, Clacton-on-Sea.
Metcalfe, F. B.	Private tuition.
Orford, R. B.	Theobald's Gram. S., Needham Mkrt.
Orford, W. T. W.	Theobald's Gram. S., Needham Mkrt.
Parkin, J.	Malvern House School, Derby.
Pointon, F.	Victoria College, Congleton.
Rose, J. W.	Commercial College, York.
Smith, A. W.	Cavendish School, Matlock Bank.
Smith, M. G.	The Collegiate School, Grimsby.
Spencer, H.	Fornby & Freshfield High School.
Walsh, A. E.	Highbury House S., St. Leonards.
Waterhouse, K.	High School, Ashton-on-Mersey.
White, G. A.	Southampton Boys' College.
Whyte, A.	Stoke Newington Grammar School.
Woodhead, F.	Goole Grammar School.

Albany, A. H.	Ware Grammar School.
Barfield, E.	Polytechnic Intermediate S., W.
Beadle, W. H.	Middleton School, Bognor.
Brown, O. H.	Newton Terrace, Rochester.
Croome, W. F.	All Saints' School, Bloxham.
Cutlack, T. E.	New College, Margate.
Denton, E.	Hipperholme Grammar School.
Dixon, J. T.	Hull and East Riding College.
Easther, H. E.	Trafalgar House S., Winchester.
Edgson, E.	Brookleigh House, Stamford.
Gee, H.	Private tuition.
Gothorp, H.	Uckfield Grammar School.
Hartley, A.	Brooklands School, Sale.
Hollins, W.	Scarborough Grammar School.
Kerry, G. M.	Devonshire Place School, Bath.
Kidgell, E. J.	Reading Collegiate School.
Lister, G.	Private tuition.
Mackenzie, J. D.	Hart House School, Tregoney.
Morris, C. L.	Dane Hill School, Margate.
Norman, S. H.	"College," Uckfield.
Oliver, F.	Norton College, Luton.
Pyman, J. W.	Etonhurst, Weston-super-Mare.
Rider, O. T.	Boys' High School, Bedminster.
Rose, H.	Private tuition.
Short, T. T.	Hoe Grammar School, Plymouth.
Sly, D. S.	D'Eresby House S., Ealing Common.

Smith, H.	Dagmar House School, Hatfield.
Sone, J. D.	"College," Uckfield.
Spencer, G.	Grammar School, Redditch.
Staley, P. C.	Sydenham College, S.E.
Stallibrass, P. P.	Margate College.
Tompsett, W. G. C.	Farnham Grammar School.
White, E.	St. John's College, Southend.
Woolven, C.	Eltham College, Kent.

Bowers, C.	Victoria College, Congleton.
Brenner, G. H.	Oakes Institute, Liverpool.
Collins, A.	Holloway College, N.
Cowper, G. H.	Commercial S., Stratford-on-Avon.
Day, E. C. J.	Theobald's Gram. S., Needham Mkrt.
Dowsett, H. A.	Catford Collegiate School, S.E.
Dresser, H. J.	Eltham College, Kent.
Fletcher, H.	Gravesend Proprietary School.
Foulkes, J. J.	Collegiate School, Llandudno.
Greenfield, W. C.	Farnham Grammar School.
Hammond, H.	Ware Grammar School.
Hewett, J. L.	Horsham College.
Hunter, S. C.	Ryde House, Ripley, Surrey.
Machen, H. A. I.	All Saints' School, Bloxham.
Male, J. E.	Ashford House School, Birkenhead.
Patchett, O.	Halifax New School.
Peake, F. J. S.	Victoria College, Congleton.
Russell, A. E.	Warwick House School, Southsea.
Shorter, V. B.	Gravesend Proprietary School.
Smith, C. G.	Brunswick House School, Windsor.
Stork, P. B.	Priory House School, Bridlington.
Tarrant, H. A.	Highfield School, Chertsey.
Wood, R.	Wellingborough Grammar School.
Wyatt, H. A. C.	Weston School, Bath.

Alexander, G. S.	Hull and East Riding College.
Belchem, H. M.	Castle School, Guildford.
Bickford, J.	Mount Radford School, Exeter.
Bloomfield, F. J.	Seorton Grammar S., Darlington.
Bradburn, T. H.	Warbreck Coll., Aintree, Liverpool.
Claydon, W. J.	St. John's College, Southend.
Cutley, C.	Salway House Collegiate S., Leyton.
Deacon, A. E.	All Saints' School, Bloxham.
Elliott, T. W.	K. James' Gram. S., Knaresborough.
Goodwin, E. H.	New College, Margate.
Hesilton, E. A.	Priory House School, Bridlington.
Hewitt, T. L.	Broughton S., Higher Broughton.
Hipkin, G.	Clarendon House School, Norwich.
Levy, E. L.	Tivoli House School, Gravesend.
Maher, A. E.	Bourne Coll., Quinton, Birmingham.
Melrose, E. O.	Private tuition.
Morrell, J.	Pontrefret College, Pontefract.
Nazer, F. W.	Private tuition.
Palmer, E. H.	Trafalgar House S., Winchester.
Parry, L. G.	New College, Margate.
Powell, E. R.	High School, Merthyr Tydfil.
Seccombe, B.	St. Mary's Hall, Cardiff.
Sharp, P. V.	Holmwood, Bexhill.
Sharp, V.	Hull and East Riding College.
Tilforth, W. A.	Royston Grammar School.
Verity, C. H.	Western College, Harrogate.
Vickers, W. A.	Oakes Institute, Liverpool.
Wheldon, J. W.	Priory House School, Bridlington.
Whiteway-Wilkinson, R.	Caversham House S., Reading.
Wilson, W. E.	St. James' Coll. School, Jersey.

[The following obtained Special Certificates, having each obtained a General Certificate at a former Examination.]

Brown, P.	d. Farnham Grammar School.
Burnham, J. H.	bk. Seaford College.
Gates, W.	bk. Seaford College.
Hackett, E. U. A.	d. Halesowen Grammar School.
Kite, C. W.	bk. Kurnella, Bournemouth.
McInerney, P.	d. Catholic Coll. Inst., Manchester.
Roberts, C. W.	el. Bourne Coll., Quinton, Birmingham.
Smith, V. F.	d. Southampton Boys' College.
Vivian, J. H.	ch. Taunton Trade S., Southampton.
Wood, C. C.	el. Private tuition.
Worsley-Benison, E. C. W.	d. Sutton Park School, Surrey.

PASS LIST OF CANDIDATES FOR CERTIFICATES OF PROFICIENCY IN MERCANTILE SUBJECTS.

[The italics denote subjects in which Candidates attained Special Proficiency.]

Campos, F.	sh. f. German and French College, Wandsworth.
Evans, W. J.	Private tuition.
Hosgood, N.	bk. Wilson College, Stamford Hill.

Lund, W.	bk. Commercial College, York.
McInerney, P.	Catholic Collegiate Institute, Manchester.
Waring, T.	sh. Catholic Collegiate Institute, Manchester.

GENERAL CLASS LIST—GIRLS.

(For list of abbreviations, see page 102.)

FIRST CLASS.—HONOURS DIVISION.

Hoffmann, L. *ch. ger.* 43 Walmer St., Rusholme, M'chester.
 Smith, E. *d. mu.* Red Maids' School, Bristol.
 Smith, A. H. *h. ger. d.* 43 Walmer St., Rusholme, M'chester.
 Phillips, B. *c. ger. d.* Southampton Girls' College.
 Smith, C. K. *G. ger.* Clarence House, Filey.
 Wellburn, L. *ger. p.* Haddo & Westwood Coll. S., Scarborough.
 Webster, M. *ch. d.* Milton Mount College, Gravesend.
 Arundel, E. D. *ger. d.* Clarence House, Filey.
 Harris, E. G. *s. d. mu.* Longley House S., Easingwold.
 Thomas J. *d. mu.* Milton Mount College, Gravesend.
 Layzell, E. M. *ger.* Hendon College, N.W.
 Gaylard, I. M. *d. mu.* Red Maids' School, Bristol.
 Taylor, E. A. M. *d. mu.* Red Maids' School, Bristol.
 Miller, M. M. *ger. d. mu.* Polytechnic Girls' School, W.
 Teviotdale, M. B. *s.* The Crescent School, Norwich.
 Read, E. M. *s. mu.* Haddo & Westwood Coll. S., Scarborough.
 Pearson, E. *Ladies' Coll.,* Wellington, Salop.
 Radford, L. *s. nat.* Fairfield College, Exmouth.
 Jones, E. M. *d. p.* Haddo & Westwood Coll. S., Scarborough.
 Greaves, E. M. *s. d.* Ellerker College, Richmond Hill.
 Maltendorf, E. *Hendon College, N.W.*
s. c. ger.
 Schofield, I. *s. nat. p.* Parish Ch. Mid. Cl. Girls' S., Leeds.
 Lawrence, A. *s. c. nat. p.* Parish Ch. Mid. Cl. Girls' S., Leeds.
 Johnson, C. M. *d. mu.* Select School, Filey.

FIRST CLASS.—PASS DIVISION.

Kitton, E. J. *s. e.* Hill House S., Downham Market.
 Lake, E. A. *nat.* Summerland College, Honiton.
 Fullford, D. F. *Northfield House, Winchester.*
 King, L. *s.* Hatter Street S., Bury St. Edmunds.
 Lloyd, F. M. *s. ger. d.* The Hollies, Handsworth.
 Thomas, F. E. *43 Walmer St., Rusholme, M'chester.*
 Dale, H. M. *h. d. mu.* Arundel House, Scarborough.
 Rowell, H. B. *nat. d.* Private tuition.
 Melville, E. L. *g. nat.* Parish Ch. Mid. Cl. Girls' S., Leeds.
 Wood, E. G. *mu.* Friends' School, Saffron Walden.
 Townsend, G. A. *The Laurels, Canterbury.*
 Lucas, A. J. *s. ger.* The Hollies, Malvern.
 Cooper, F. *Grey Coat Hospital, Westminster.*
 Huxham, H. G. *h. k.* Alexandra College, Shirley.
 Boon, G. E. *43 Walmer St., Rusholme, M'chester.*
 Bruchert, M. *ger.* Moseley Ladies' College.
 Grundy, E. M. *ger. d.* Private tuition.
 Salisbury, L. E. *Harborne Ladies' College, B'ham.*
 Norman, E. G. *s.* Red Maids' School, Bristol.
 Sale, E. *Convent of Loreto, Hulme.*
 Houghton, K. *Park S., Hr. Broughton, Manchester.*
 Jenkins, B. A. *s.* Leften House, Alton.
 Hobbs, E. A. *Cross Hayes House, Malmesbury.*
 Brenner, E. M. *21 Home Pk. Villas, Stoke, Devonport.*
 Porter, E. M. *Cae Llennor School, Carnarvon.*
 Kennedy, F. M. *London Orphan Asylum, Watford.*
 Pringle, C. M. *d.* Ellerslie Ladies' S., Bromsgrove.
 Roberts, E. M. *London Orphan Asylum, Watford.*
 Goddard, M. L. *d. mu.* Gravesend Proprietary School.
 Meek, B. E. *Arundel House, Scarborough.*
 Wakefield, M. E. *ger.* Brounley Park College, Kent.
 Wheeler, A. J. *s. g.* Private tuition.
 Langley, E. *nat. mu.* Harborne Ladies' College, B'ham.
 Wigmore, M. D. *Alexandra House S., Newport, I.W.*
 Aymer, C. *d.* Hill House S., Downham Market.
 Johnstone, E. *d.* Convent of Loreto, Hulme.
 Stutard, F. *Milton Mount College, Gravesend.*
 Thompson, R. C. *Claughton College, Birkenhead.*
 Hadland, L. M. *Ellerker College, Richmond Hill.*
 Humphreys, E. B. *d.* Gravesend Proprietary School.
 Jackson-Smith, H. N. *Girls' High S., Bishopston, Bristol.*
 Jones, M. E. *Ladies' College, Wellington, Salop.*
 Tomlinson, F. E. *Park Hall, Loughton, Staffs.*
 Elkins, G. *mu.* Grey Coat Hospital, Westminster.
 Grant, I. A. *s.* Finsbury Coll., Camden Road, N.
 Strawson, H. S. *s.* Grafton Ho., Lewisham High Rd.
 Burnett, O. C. *Howard College, Bedford.*
 Pahl, E. K. *mu.* Stoke Newington High School, N.
 Wilbee, A. S. *s.* 4 Endsleigh Gardens, N.W.
 Browne-Mason, M. E. B. *Private tuition.*
 Green, M. *mu.* Grey Coat Hospital, Westminster.
 Hooper, L. E. *s.* "Y Garn," Bromley, Kent.
 Ward, L. K. *Central Foundation S., Bishopsgate.*
 Ducker, B. S. *Onslow Hall, South Kensington.*
 Evans, E. H. *d.* Fern Bank, Wandsworth Common.
 Hunt, E. *s. ger. d.* Convent of Loreto, Hulme.
 Conder, M. *Private tuition.*
 Redit, G. *mu.* East Holme, Downham Market.
 Symmons, M. A. *Holmercroft, Bromley, Kent.*
 de Costa, E. *Convent of Loreto, Hulme.*
 Menzies, B. L. *London Orphan Asylum, Watford.*
 Solly, M. L. *ger.* The Coborn School, Bow Road, E.
 Petts, I. M. *Collingwood College, Lee.*
 Bywater, H. E. *d. mu.* Wynand House, Bowes Park.
 Walford, M. *Collingwood College, Lee.*
 Jones, E. M. *ger.* Hatter St. S., Bury St. Edmunds.
 Pitts, L. I. *Girls' High S., Bishopston, Bristol.*
 Tirrell, F. E. *Ladies' College, Ellesmere.*
 Gillett, T. *mu.* Buena Vista, Weston-super-Mare.
 Tylecote, J. A. M. *h. nat.* Kemmendine Ho., Shrewsbury.
 Wells, M. H. *K. James' Gram. S., Knaresboro'.*
 Harris, M. G. A. *Eversley House School, Bognor.*

Davies, L. *Milford House S., Newport, Mon.*
 Lovell, E. J. *Airedale House School, Gravesend.*
 Thorowgood, J. M. *nat.* Ashdean College, Croydon.
 Ward, E. C. *Ellerker College, Richmond Hill.*
 Mackenzie, M. L. *ger.* The Coborn School, Bow Rd., E.
 Maybery, W. *Down End, Clifton.*
 Thomlinson, J. M. *East Southsea Collegiate School.*
 Brown, M. L. *mu.* College House, Hungerford.
 Phillips, S. J. *Westgate House, Peterborough.*
 Powell, M. J. *s. nat.* Hereford Ladies' College.
 de Ugarte, Mercedes *Convent of Loreto, Hulme.*
 Birdsell, R. *s.* Parish Ch. Mid. Class Girls' S., Leeds.
 Wilson, K. L. *d.* Private tuition.
 Shaw, B. *d.* Trafalgar Square S., Scarborough.
 Petrice, A. *s. mu.* 4 Endsleigh Gardens, N.W.
 Woodbridge, M. L. *Central Foundation S., Bishopsgate.*
 Cresswell, E. M. *d.* The Hollies, Handsworth.
 Callander, M. *d.* The Coborn School, Bow Road, E.
 Girtton, A. G. *d.* The Coborn School, Bow Road, E.
 Fooks, A. E. *d.* Westgate House, Peterborough.
 Twemlow, E. E. *Park S., Hr. Broughton, Manchester.*
 Portnell, E. *Alexandra College, Shirley.*
 Houston, D. J. *s.* Highfield College, Chulmleigh.
 Boon, M. *43 Walmer St., Rusholme, M'chester.*
 Hibberd, M. A. *Ellerker College, Richmond Hill.*
 Hitchcock, G. M. *d.* The Lymes, Sudbury, Suffolk.
 Wilkerson, J. M. *Summerland College, Honiton.*
 Cook, E. E. *Red Maids' School, Bristol.*
 Nash, E. A. *s.* Hereford Ladies' College.
 Nolan, L. C. *Private tuition.*
 Sewell, E. *Buena Vista, Weston-super-Mare.*
 Varley, E. H. *Parish Ch. Mid. Class Girls' S., Leeds.*
 Bolton, E. A. *ger.* The High School, Preston.
 Brand, H. *Infant Orphan Asylum, Wanstead.*
 Jones, R. *Summerfield Hall, Maesywmmmer.*
 Slipper, H. J. *The Lymes, Sudbury, Suffolk.*
 Turner, L. *Haddo & Westwood Coll. S., Scarborough.*
 Watherston, N. F. *Private tuition.*
 Ewing, H. *d.* Southampton Girls' College.
 Messervy, E. A. *f.* Royal Bay Terr. S., Gorey, Jersey.
 Twort, A. *d.* Woking High School.
 White, E. H. *Grange College, Leominster.*
 Evans, E. S. *Sidcot School, Weston-super-Mare.*
 Taylor, C. G. A. C. *The Coborn School, Bow Road, E.*
 Wood, F. *High S., Queen's College, B'ham.*
 Wraith, B. I. *London Orphan Asylum, Watford.*
 Parker, M. J. *Eaglesfield School, Hr. Broughton.*
 Reynolds, J. A. *Ellerker College, Richmond Hill.*
 Robinson, A. L. *d.* St. Hildred's, Southsea.
 Lancheater, B. E. *St. Katharine's, Eastbourne.*
 Downes, L. *Park House, Coventry.*
 Thornton, S. *Parish Ch. Mid. Class Girls' S., Leeds.*
 Blewitt, E. M. *d.* Ponton Vicarage, Eccleshall.
 Morris, A. B. *mu.* Private tuition.
 Hobgen, A. J. *Eversley House S., Bognor.*
 Hunter, E. M. *Milford House S., Newport, Mon.*
 Lee, F. *Hereford Ladies' College.*
 Sellers, M. B. L. *Girtton House, Yeovil.*
 Cox, V. M. *Belmont House, Alton, Hants.*
 Horton, M. E. *High School, West Bromwich.*
 Lake, B. E. *Private tuition.*
 Slatter, E. J. *Hereford Ladies' College.*
 Whiffen, I. *High School, New Brighton.*
 Firkin, L. *Harborne Ladies' College, B'ham.*
 Davies, E. *Summerfield Hall, Maesywmmmer.*
 Pearson, A. H. *Grosvenor School, Wokingham.*
 Darling, E. M. *Oakley High Class S., Southsea.*
 Hodgson, E. M. *The Ladies' Coll., Newport, Mon.*
 Smith, H. *d.* Bromley Park College, Kent.
 Welbury, C. P. *Parish Ch. Mid. Class Girls' S., Leeds.*
 Pope, D. M. *p.* Mecklenburg House, Putney Hill.
 Gutteridge, M. E. *Gravesend Proprietary School.*
 Bureham, C. L. *d.* Sidcot School, Weston-super-Mare.
 Patterson, N. G. M. *Arlington House S., Newport, Mon.*
 Patching, E. *Nevill College, Tunbridge Wells.*

SECOND CLASS.—1ST DIVISION.

Morgan, F. K. *d.* Red Maids' School, Bristol.
 Miller, M. *d.* Polytechnic Girls' School, W.
 Longman, J. A. *Cross Hayes House, Malmesbury.*
 Stapley, J. *d.* Cambridge House, Guildford.
 Johnson, L. A. *The Lindens, St. Quintin Avenue, W.*
 Williams, E. *mu.* 26, Ashley Road, Hornsey Rise.
 Elstob, L. *d.* Milton Mount College, Gravesend.
 Bryson, I. S. *ger. d.* Private tuition.
 Wotherspoon, M. P. *Camden School for Girls, N.W.*
 Ransford, G. M. *ger.* Bleunheim, Bournemouth.
 Rankin-Turvin, K. B. *The Lindens, St. Quintin Avenue, W.*
 Taylor, L. S. *Kidderminster High School.*
 Fosbery, S. K. *Kidderminster High School.*
 Hartley, M. E. *d.* Private tuition.
 McKay, J. L. *Haddo & Westwood Coll. S., Scarborough.*
 Wilkinson, D. E. *d.* Private tuition.
 Goodchild, H. M. *mu.* Langholm, St. Leonard's-on-Sea.
 Hoysted, L. G. *Holland House, Beverley.*
 Smith, M. L. *76 Guildhall St., Bury St. Edmunds.*
 Jack, B. G. *St. Bernard's, Southsea.*
 McElderry, M. K. *Boarding & Day S., Seaton Carew.*
 Catley, E. *mu.* Arundel House, Scarborough.
 Stutfield, A. R. *d.* Private tuition.
 Charlton, H. L. M. *Westbourne Ho., West Cowes, I.W.*
 Elgood, E. M. *Kidderminster High School.*
 Ritchie, A. E. *Ladies' College, Wellington, Salop.*

Glover, A. *Convent of Loreto, Hulme.*
 Phillips, S. S. *Polytechnic Girls' School, W.*
 Belton, C. *nat. d.* Summerland College, Honiton.
 Hare, H. A. *Chestnut House, Lincoln.*
 Turnbull, F. E. *s.* Parish Ch. Mid. Class Girls' S., Leeds.
 Ashford, L. M. *Alexandra College, Shirley.*
 Coleman, E. A. *mu.* Haddo & Westwood Coll. S., Scarborough.
 Doody, L. *d.* Eversley, Bexhill-on-Sea.
 Flanagan, M. *d.* Camden School for Girls, N.W.
 Krail, D. H. *Northfield House, Winchester.*
 McNaught, E. M. *d.* Arundel House, Scarborough.
 Ockleston, M. T. *7 Devonshire Villas, Brondesbury.*
 Paton, E. M. *Private tuition.*
 Rotherham, M. *d. mu.* Clarendon House, Southport.
 Harris, A. *Milton Mount College, Gravesend.*
 Holman, M. O. *d.* Wynand House, Bowes Park.
 Prond, L. *Avonbank House, Bath.*
 Tomkins, M. A. *Abbotsford College, Stroud, Glos.*
 Williams, M. A. *Friends' School, Saffron Walden.*
 Larr, G. H. *Kidderminster High School.*
 Arnold, E. E. *Buxton Lodge Collegiate S., Luton.*
 Hicks, D. D. *Central Foundation S., Bishopsgate.*
 Lush, C. M. *Grange College, Leominster.*
 Dunn, G. B. *mu.* Holland House, Beverley.
 Ellershaw, F. *Grosvenor House, Scarborough.*
 Tompsett, H. H. *s.* Clermont House, Cranbrook.
 Hawkins, E. H. *d.* Twickenham College for Girls.
 Jones, L. M. *s. nat. d.* Kemmendine House, Shrewsbury.
 Severs, B. *d.* Airethwaite School, Kendal.
 Smith, A. E. *d.* Museum Terrace, Chelmsford.
 Branton, E. M. *mu.* Welwick House School, King's Lynn.
 Kendall, A. E. *mu.* Breakspear College, Brockley.
 Nevitt, M. *Parish Ch. Mid. Class Girls' S., Leeds.*
 Reeves, A. *ger.* Albert Villa, Ramsgate.
 Hawkins, M. P. *Girls' High S., Bishopston, Bristol.*
 Mason, E. N. *Kidderminster High School.*
 Meredith, G. E. *d.* Private tuition.
 Orchard, N. *Southernhay School, Exeter.*
 Stacey, E. P. *Camden School for Girls, N.W.*
 Trevett, A. *mu.* Whitelands Coll. Up. S., Chelsea.
 Tymms, E. I. *mu.* Haddo & Westwood Coll. S., Scarborough.
 Beal, M. *Camden School for Girls, N.W.*
 Briggs, B. M. *Northote Girls' School, Armley.*
 Isbister, M. D. *26 Dartmouth Row, Blackheath.*
 Maekinder, E. K. *Westgate House, Peterborough.*
 Perrett, K. *26 Ashley Road, Hornsey Rise.*
 Sanders, E. A. M. *Summerland College, Honiton.*
 Warren, A. *Russell House School, Grimsby.*
 Bumpus, M. G. *Stannore House, Weston-s.-Mare.*
 Challen, E. W. *d.* Stoneygate College, Leicester.
 Brown, H. *26 Ashley Road, Hornsey Rise.*
 Hartley, G. *ger.* Springfield Lodge, Ilkley.
 Maggs, A. C. *Stannore House, Weston-s.-Mare.*
 Mallett, V. *Malvern House S., Lewisham Park.*
 Rees, A. *Summerfield Hall, Maesywmmmer.*
 Winter, E. F. A. *nat.* Higher Grade Girls' S., Norwich.
 Botterill, W. *The Manor House, Driffield.*
 Bremer, A. M. *The Ferns, Green Lanes, N.*
 Hall, P. H. *Private tuition.*
 Harben, M. C. *Hendon College, N.W.*
 Stanley, A. E. *d.* Oakley High Class S., Southsea.
 Turner, A. M. *nat.* The Crossley & Porter S., Halifax.
 Heyland, V. E. M. *St. Andrew's High School, Bexhill.*
 Macneill, J. *Haddo & Westwood Coll. S., Scarborough.*
 Morris, L. M. *Merchiston, Eastbourne.*
 Woodman, H. *Private tuition.*
 Bassano, A. E. *mu.* Tewkesbury High School for Girls.
 Eyre, A. L. *d.* Cambridge House S., Battersea Pk.
 Ray, N. *Mowbray School, Sunderland.*
 Storey, A. L. *Gravelly Hill High S., Birmingham.*
 Wreford, M. *Private tuition.*
 Blacker, M. B. *Fern Bank, Wandsworth Common.*
 Herbert, E. *Milton Mount College, Gravesend.*
 Smith, E. M. *Gravesend Middle Class School.*
 Sutorius, M. *ger. d.* The Hollies, Handsworth.
 Hankens, F. L. *d.* Camden School for Girls, N.W.
 Ings, A. M. *Lithend Ladies' S., Bp. Waltham.*
 Parkhouse, E. *St. Bernard's, Southsea.*
 Walbrook, N. V. *Camden School for Girls, N.W.*
 Davies, M. L. *d.* High Grade School, Wanstead.
 Derrick, E. M. *North Bristol School for Girls.*
 Gatrell, K. M. *Alexandra College, Shirley.*
 Marshall, M. *nat.* Thomas St. Girls' S., Burdett Rd., E.
 Timms, S. M. G. *Clarence House, Filey.*
 Braithwaite, L. M. *d.* Airethwaite School, Kendal.
 Dexter, D. A. M. *Claremont, Margate.*
 Hill, E. M. *Clovelly, Streatham.*
 Masters, J. M. *Brean Down House S., Burnham.*
 Mayall, M. *Sunnybank Ladies' Coll. Wilmslow.*
 Sharpe, M. M. *Warbreck College, Aintree, L'pool.*
 Thomas, J. C. *Southampton Girls' College.*
 Warren, M. E. *St. Hilda's, Worthing.*
 Barugh, E. *The High School, Stockton-on-Tees.*
 Greenfield, M. *mu.* Russell House School, Grimsby.
 Hill, E. M. *High S., Queen's College, B'ham.*
 Lavington, K. M. *Mayfield, Marlborough.*
 Dallison, K. S. *Gravelly Hill High S., Birmingham.*
 Leach, E. *Parish Ch. Mid. Class Girls' S., Leeds.*
 Loader, B. *Girls' High School, Bournemouth.*
 Adey, M. M. *d.* Mayfield, Marlborough.
 Badham, I. M. *The Hollies, Malvern.*
 Billing, H. E. *mu.* Stoke House, Guildford.
 Green, M. *Glendale College, Streatham Hill.*
 Ironside, E. M. *d.* Whitelands Coll. Upper S., Chelsea.
 Malsbury, A. M. *The Hollies, Handsworth.*

GIRLS, SECOND CLASS—Continued.

- Seymour, M. H. Upper Mount, Southsea.
Yewdall, M. A. *p.* Haddo & Westwood Coll. S., Scarbro'.
- Campbell, E. M. Clarence House, Filey.
Clowes, K. Essex House S., Woodford Green.
Crank, E. M. Colston's Girls' Day S., Bristol.
Gray, E. R. *d.* Sidecot School, Weston-super-Mare.
Passey, E. *d.* Tewkesbury High School for Girls.
Tonkin, A. D. *d.* Leith House, Acton.
Whittaker, R. L. *d.* Haddo & Westwood Coll. S., Scarbro'.
- Broomfield, M. S. S. London College, Brixton Road.
Halket, E. C. The George Green Schools, Poplar.
Harvie, F. L. K. James' Gram. S., Knaresborough.
Jones, F. E. Colston's Girls' Day School, Bristol.
Kenny, C. M. Southampton Girls' College.
Maxwell, I. R. Bromley Park College, Kent.
O'Meara, G. A. Knightsville College, Lewisham.
Palmer, D. Milton Mount College, Gravesend.
Smith, L. L. *d.* Museum Terrace, Chelmsford.
Thomson, M. Camden School for Girls, N.W.
Thickett, L. S. *d.* Sidecot School, Weston-super-Mare.
- Bulstrode, E. Private tuition.
Cowderoy, W. E. Private tuition.
Longford, E. Woodland House School, Thirsk.
Murray, J. *d.* Essex House S., Woodford Green.
Rayner, H. C. K. The Ferns, Green Lanes, N.
Roberts, C. Larkstone, Malvern.
- Johnson, E. M. U. The Grammar School, Willesden.
Vedy, C. L. Cambridge House S., Battersea Pk.
Vinall, E. Burgess Hill High School, Sussex.
Wilson, I. Private tuition.
- Andrews, E. E. Camden School for Girls, N.W.
Baker, A. The Stricklands, Stowmarket.
Croft, E. M. Clarendon College, Tufnell Park.
Crole-Rees, C. L. E. Cashiobury House, Southend.
Dutch, R. Friends' School, Saffron Walden.
Fawcett, B. E. Polytechnic Girls' School, W.
Gammell, A. M. *d.* Camden School for Girls, N.W.
Hart, M. K. Mecklenburg House, Putney Hill.
Lucas, E. West Holme S., Clacton-on-Sea.
Smalley, E. J. *d.* Sidecot School, Weston-super-Mare.
Stanbury, M. *d.* Buena Vista, Weston-super-Mare.
Webb, B. A. *d.* Buxton Lodge Collegiate S., Luton.
Williams, F. Sidecot School, Weston-super-Mare.
- Edwards, E. A. Hereford Ladies' College.
Harris, L. Girls' High School, Shaftesbury.
Jones, C. L. St. Margaret's, Westgate-on-Sea.
Osbourne, B. Mowbray School, Sunderland.
Sharpe, E. M. Church House School, Beckley.
Smith, E. A. M. Stanmore House, Weston-super-Mare.
Young, A. M. London Orphan Asylum, Wafford.
- Adams, E. N. Hackney High S., Stamford Hill.
Atkinson, M. Stanley House, Stockton-on-Tees.
Crawley, I. K. The Coborn School, Bow Road, E.
Good, J. S. The Lymes, Sudbury, Suffolk.
James, L. Milford House S., Newport, Mon.
McLay, C. R. Camden School for Girls, N.W.
Reid, C. M. Ladies' College, Wellington, Salop.
Sime, C. M. Mecklenburg House, Putney Hill.
- Bown, F. E. High School, Newton Abbot.
Brooke, H. C. Thornfield Ladies' Coll., Bowdon.
Evans, A. M. F. Clarence House, Filey.
Fyson, A. M. Devonshire House S., Wincanton.
Griffin, F. H. Ellerker College, Richmond Hill.
Joseph, M. Milton Mount College, Gravesend.
Purser, B. M. The Hollies, Malvern.
Ramsay, A. 21 Home Pk. Villas, Stoke, Devonport.
Reeves, L. Summerfield Hall, Maesycwmmer.
Rooth, H. M. Private tuition.
- Birkett, E. St. Winifred's S., Southampton.
Deacon, L. L. M. *d.* Longford Girls' School, Bristol.
Faulder, E. J. Brunswick House School, Carlisle.
Gate, M. S. Private tuition.
Smith, A. M. Ladies' College, Wellington, Salop.
Stedman, E. E. Eastholme, Farnham.
Waller, M. E. Creswell House S., Westgate-on-Sea.
Wright, A. M. Aeock's Green Coll. S., Birmingham.
- Arnold, A. Moseley Ladies' College.
Bagnall, L. D. Eilerslie Ladies' S., Bromsgrove.
Blewitt, K. H. The Ferns, Green Lanes, N.
Goodchild, M. Girls' High S., Bury St. Edmunds.
Kemish, B. E. East Holme, Downham Market.
Lake, A. M. *d.* High School for Girls, Barnstaple.
Moxey, M. Longford Girls' School, Bristol.
Ortner, E. L. Mecklenburg House, Putney Hill.
Schumann, B. G. Camden School for Girls, N.W.
Traylor, M. H. Longford Girls' School, Bristol.
- Bradley, M. F. Kidderminster High School.
Gibson, A. G. Ripley House, Bury St. Edmunds.
Hadaway, E. K. The High School, Hull.
Hutchin, H. B. High School, New Brighton.
Hyslop, C. Ladies' College, Wellington, Salop.
Mansfield, A. L. Harley House School, Hereford.
Montgomery, M. Convent School, Southampton.
Morrison, N. Thornpark Girls' S., Teignmouth.
Parr, A. M. Brook House, Woodbridge.
Pegge, E. *mu.* Grosvenor House, Scarborough.
Phillips, E. St. Winifred's S., Southampton.
Roberts, N. E. Elmswood College, Stretford.
Thornicroft, J. M. *d.* Ladies' College, Wellington, Salop.
- Ashenden, D. The Lamels, Canterbury.
Baker, B. S. *ger.* Alexandra College, Shirley.
Bearman, R. 38 Canonbury Square, N.
Bensley, M. Trebovir House, S. Kensington.
Bright, C. M. *d.* Alexandra House S., Newport, I.W.
Budge, E. M. Faringdon Ho. S., W. Bournemouth.
Carlisle, D. Northcote, The Heath, Hampstead.
Horner, I. E. Upper Mount, Southsea.
- Jackson, J. *d.* Airethwaite School, Kendal.
Miller, N. Betley Ladies' College, Crewe.
Murdoch, B. M. *d.* Farington Ladies' Coll., Blackpool.
Newton, A. M. Crescent House College, Bedford.
Snee, A. *d.* Forest Gate Collegiate School.
- Archbold, E. Parish Ch. Mid. Class Girls' S., Leeds.
Finch, M. E. St. Katharine's, Eastbourne.
Fowler, B. S. *ger.* Private tuition.
Jettys, A. L. Duke House, Trowbridge.
Jones, A. The Hollies, Hagley Rd., B'ham.
McCulloch, L. Alexandra College, Shirley.
Spiller, B. E. *d.* Montrose House, Margate.
Stratton, E. L. Alexandra House S., Newport, I.W.
Turner, E. E. *mu.* Upland College, Stroud.
Walton, H. Westgate House, Peterborough.
- Abercrombie, L. B. S. Rhianva College, Hunstanton.
Allen, I. A. *nat.* Higher Grade Girls' S., Norwich.
Bygate, W. M. Cambridge House, York.
Carver, L. Mecklenburg House, Putney Hill.
Challen, C. B. London Orphan Asylum, Watford.
Cole, A. M. Hanover House School, Buxton.
Crouch, D. Red Maids' School, Bristol.
Denning, F. L. M. St. Bernard's, Southsea.
Johnston, K. L. Woolwich & Plumstead High School.
Matthews, E. C. *d.* Royal Masonic Inst., Battersea.
Price, F. M. Mayfield, Marlborough.
Thorn, E. B. Girls' Middle School, Tiverton.
Westcott, A. E. Brampton House, Swaffham.
Willeox, P. Colston's Girls' Day School, Bristol.
Winpenny, E. Chestnut House, Lincoln.
- Balfour, M. *d.* Claremont House, Sunderland.
Firth, A. 7 Hyde Terrace, Tillington Park.
Jones, J. M. Farington Ladies' Coll., Blackpool.
Peirce, E. Ellerker College, Richmond Hill.
Perry, A. M. St. Margaret's, Montpelier, Bristol.
Shilson, E. B. *d.* Fairfield College, Exmouth.
- Crofts, F. L. Claremont, Margate.
Cuthbert, M. A. Woolwich & Plumstead High School.
Everard, M. J. M. B. West End House, Wellingborough.
Hands, A. K. Ladies' College, Ellesmere.
Mandrell, M. M. *mu.* Brunswick House School, Carlisle.
Mason, D. A. Kidderminster High School.
Moll, B. Park S., Br. Broughton, Manchester.
Potter, M. B. High School, Redhill.
Stansbury, E. Collingwood College, Lee.
Sutherland, M. I. Avondale, Croxteth Rd., Liverpool.
Woodger, L. E. Oxford College, Clacton-on-Sea.
- Cooper, M. Oxford Lodge, Wolverhampton.
Gibson, L. *d.* Grosvenor House, Hornsea.
Hewwood, M. Hatherleigh, Cronch End.
Horsman, M. T. Arundel House, Scarborough.
Lees, A. C. *mu.* Gravelly Hill High S., Birmingham.
MacTurk, M. L. Private tuition.
Maxwell, M. Hartfell College, Birkdale.
Pearce, A. E. B. Abbotsford College, Stroud, Glos.
Potter, W. M. P. M. *d.* St. Hilfred's, Southsea.
Simbaldi, C. E. *d.* Ellerker College, Richmond Hill.
Smith, M. Park House School, Bowdon.
Westley, A. M. Stanmore House, Weston-super-Mare.
- Booty, G. M. Clarence House, Filey.
Brooks, L. Grey Coat Hospital, Westminster.
Burgess, L. Rose Hill School, Bowdon.
Clarke, G. M. Salem House, Sunderland.
Emlyn-Jones, G. E. Colston's Girls' Day School, Bristol.
Graves, A. G. Private tuition.
Leaver, E. L. Ladies' School, Cosham.
Mason, M. M. Lameston Girls' High School.
Matthews, C. M. Down End, Clifton.
Phillips, A. E. Moseley High School for Girls.
Reed, H. M. Avonbank House, Bath.
Richardson, E. M. N. Hackney High S., Stamford Hill.
Smith, L. J. Llandaff House School, Norwich.
Stevens, J. M. The Ferns, Green Lanes, N.
Torpy, A. F. The Coborn School, Bow Road, E.
Walton, A. Barnley Middle Class School.
Wood, J. Y. Alexandra College, Shirley.
- Connors, E. B. Oakley High Class School, Southsea.
Granlund, F. M. Bromley Park College, Kent.
John, G. The Limes, Ealing.
Guest, C. Colston's Girls' Day School, Bristol.
Lee, F. M. The Lindens, S. Quintin Avenue, W.
Marlow, M. E. Royal Masonic Inst., Battersea.
Poole, E. M. Camden School for Girls, N.W.
Prim, M. E. Burlington Middle Class Girls' S., W.
Robin, M. S. A. Kemmendine House, Shrewsbury.
Searle, C. R. Denmarklyn, Weston-super-Mare.
Stagg, B. J. Collingwood College, Lee.
Tilly, M. Crescent House College, Bedford.
- Cowderoy, L. M. Private tuition.
Humphreys, M. E. High School, Newtown, Mont.
Hurst, E. Malvern House S., Lewisham Park.
London, M. A. St. Katharine's, Eastbourne.
Read, F. M. E. *d.* Bromley Park College, Kent.
Snamers, M. L. 12 Reginald Terrace, Leeds.
Smith, J. Hartfell College, Birkdale.
- Andrews, I. *d.* Ashby House School, Eastbourne.
Budd, W. M. High School for Girls, Cork.
Clifford, M. *ger.* Collingwood College, Lee.
Cooper, C. Milton Mount College, Gravesend.
Groot, C. A. The High School, Waltham Cross.
Hyams, A. J. Camden School for Girls, N.W.
Kytson, L. A. Hope House, New Leeds.
Nash, A. L. Russell Ho. S., Wandsworth Comm.
Peters, F. Colston's Girls' Day School, Bristol.
Pratt, G. E. Private tuition.
Tower, M. Private tuition.
Vernon, W. A. Girls' High School, Bournemouth.
Beard, S. A. Colston's Girls' Day School, Bristol.
Ely, L. Northgate House School, March.
- Gamtlett, A. R. Hamstead Hill S., Wandsworth.
Hambridge, B. M. Fonthill College, Great Malvern.
Hooke, F. Harcourt Lodge, Anerley.
Kaye, M. I. Essex House S., Woodford Green.
Ollerenshaw, A. 25 Rhodes Street, Halifax.
Smith, E. B. Alexandra College, Shirley.
Stranger, H. M. Gunnerside School, Plymouth.
Symons, M. G. Albert Villa, Ramsgate.
Thomas, D. *d.* Sidecot School, Weston-super-Mare.
Thomas, W. E. Southampton Girls' College.
- Atkin, L. Stoke House, Guildford.
Blackmore, E. M. Ellenborough House, Clifton.
Cock, L. E. Harley House School, Hereford.
Dixon, W. Private tuition.
Edwards, J. North Park College, Croydon.
Green, F. G. Brentwood School, Southport.
Heron, D. E. C. Denmark College, Wimbledon.
Hodgkinson, M. Boarding and Day S., Seaton Carew.
Jephson, E. B. 18 Charnwood Street, Derby.
Kelly, A. M. Camden School for Girls, N.W.
Lumiss, B. A. St. Margaret's, Westgate-on-Sea.
McKay, G. P. Haddo & Westwood Coll. S., Scarbro'.
- Morris, E. M. Hereford Ladies' College.
Pearson, S. St. George's House, Doncaster.
Wheeler, M. Portsea Collegiate School.
Woodhams, E. B. Hightfield, Highbury Place, N.
- Carpenter, E. A. Collingwood College, Lee.
Elliott, G. L. M. Woolwich & Plumstead High School.
Golding, E. R. High Class School, Beeches.
Huxham, C. S. St. Winifred's School, Southampton.
Joyson, E. M. C. Fairfield, Cotham Park, Bristol.
Morgan, J. Alexandra House S., Newport, I.W.
Noble, F. M. 6 Princes Avenue, Liverpool.
Pinhorn, A. H. Southampton Girls' College.
Rootes, H. M. Brampton House, Swaffham.
Shorthouse, M. A. High School, West Bromwich.
Thatcher, J. G. Kidderminster High School.
Tobitt, A. J. Melbourne Coll., Thornton Heath.
Wiltshire, M. J. Tewkesbury High School for Girls.
- Bowden, H. *mu.* 33 Sion Hill, Bath.
Clifford, E. Pivington House, Maidstone.
Comfort, G. C. The Coborn School, Bow Road, E.
Davison, M. E. Camden School for Girls, N.W.
Graham, K. M. Ladies' College, Wellington, Salop.
Hearsey, E. Abbotsford Ladies' School, Bristol.
Jarman, F. G. North Bristol School for Girls.
Jude, L. K. High Class School, Beeches.
Lepine, M. K. Parkside House School, Hounslow.
Miller, F. A. C. Albert Villa, Ramsgate.
Osmond, N. Cricklewood High School.
Partington, E. C. *d.* Belmont School, Clapham.
Sanderson, E. V. Wilber House School, Biggleswade.
Tabor, E. B. Private tuition.
Walker, E. M. Ashby House School, Eastbourne.
Willmott, G. Denmark College, Wimbledon.
- Barrett, H. Newcastle House, Lewes.
Callis, H. *mu.* Oak House, Leamington.
Cater, B. R. Kensington House, Birkenhead.
Chapman, E. The Laurels, Canterbury.
Chissell, B. M. Girls' High School, Bournemouth.
Cooke, A. M. High School for Girls, Cork.
Cuthbert, A. M. Tewkesbury High School for Girls.
Forty, V. C. Stanmore House, Weston-super-Mare.
Hind, C. E. Haddo & Westwood Coll. S., Scarbro'.
- Mortimer, M. E. Buena Vista, Weston-super-Mare.
Newall, A. Ladies' College, St. Anne's-on-Sea.
Telfer, C. Clergy Daughters' School, Bristol.
Tier, M. G. Holmfield, Southport.
Todd, S. J. Onslow Hall, South Kensington.
Warren, M. G. Buxton Lodge Collegiate S., Luton.
Wright, M. I. Infant Orphan Asylum, Wanstead.
- Batty, A. M. Grosvenor House, Hornsea.
Dalby, E. 12 Reginald Terrace, Leeds.
Gladden, M. A. Surrey House School, Norwich.
Goodison, B. J. Melrose College, St. Leonards.
Holman, A. C. Maida Vale College, W.
Lloyd, K. J. M. Wenderholme College, Sale.
Maddock, E. Milford House S., Newport, Mon.
Potts, R. M. Beech Tree House S., Aldridge.
Sampson, E. L. Oakhurst, Ealing.
Sidney, A. Richmond & Twickenham High S.
Southern, B. Parish Ch. Mid. Class Girls' S., Leeds.
Thorne, B. Leigh Bank, Leamington.
Tranter, K. M. Upland College, Stroud.
Turner, E. A. Abbey Collegiate S., Shrewsbury.
White, E. K. 26 Ashley Road, Hornsey Rise.
- Gray, H. K. St. Margaret's, Montpelier, Bristol.
Grigsby, V. E. Oakley High Class S., Southsea.
Keeling, A. The Lindens, S. Quintin Avenue, W.
Lowe, A. G. Hill House S., Downham Market.
McMillan, E. L. C. Prospect House, St. Neots.
Murrin, E. M. High School, Newton Abbot.
Viall, E. Woodside Ladies' School, Redhill.
Way, D. M. Private tuition.
Williams, M. Mt. Ephraim S., Tunbridge Wells.

SECOND CLASS.—2ND DIVISION.

- Barnes, L. J. Raleigh Mid. Class S., S. Newington.
Basley, B. M. London Orphan Asylum, Watford.
Collins, F. Beecheroff Coll., Richmond Hill.
Hall, M. Mowbray Place, Sowerby, Thirsk.
Hayter, I. M. The Coborn School, Bow Road, E.
Ison, G. E. Parish Ch. Mid. Class Girls' S., Leeds.
Kerry, A. C. Oldfield Lodge, Bath.
Minor, M. Brightbelmston, Birkdale.
Nash, B. M. Russell Ho. S., Wandsworth Comm.
Shimwell, M. Collegiate High School, Didsbury.
Tomkins, E. High School, Altringham.
Walker, M. 29 Main Ridge, Boston.

GIRLS, SECOND CLASS—Continued.

Webb, M. L. Buxton Lodge Collegiate S., Linton.
 Weston, K. G. Camden School for Girls, N.W.
 Yates, A. L. d. Milford House, Abergavenny.
 Bacon, M. M. Prospekt House, St. Neots.
 Billington, K. H. Betley Ladies' College, Crewe.
 Botterley, M. L. Moseley High School for Girls.
 Daniels, V. E. Surrey House School, Norwich.
 Eggett, E. M. d. High School, King's Lynn.
 Haider, D. M. Belmont House, Alton, Hants.
 King, J. E. d. Hightfield, Harrogate.
 Lewis, E. W. Ellerker College, Richmond Hill.
 Lucas, M. L. L. Private tuition.
 Pinn, S. C. Totnes Girls' School.
 Scarlett, A. Burlington Middle Class Girls' S., W.
 Smith, M. St. George's House, Doncaster.
 Vincent, F. A. Cambridge House, York.
 Walker, M. Burlington Middle Class Girls' S., W.
 Williams, G. M. Milford House, Abergavenny.
 Willis, A. B. Hethfield, Southport.
 Arluckle, A. E. F. Hall Gate School, Doncaster.
 Chalkley, C. L. d. Buxton Lodge Collegiate S., Linton.
 Hartley, A. Wyntroph Coll., Ashton-on-Mersey.
 Haynes, M. H. Howard College, Bedford.
 Jones, L. Summerfield Hall, Maesyewmmer.
 Mitchell, H. M. Parkside, Harrogate.
 Porter, A. d. Edgeworth House S., Finsbury Park.
 Pullen, G. R. Claremont, Margate.
 Richardson, C. E. d. Denmark College, Wimbledon.
 Soper, M. Forest Gate Collegiate School.
 Speed, M. Royal Masonic Inst., Battersea.
 Thornely, M. d. The Queen's School, Chester.
 Truscott, L. V. Seymour House, Saltash.
 White, M. M. Collingwood College, Lee.
 Beirnsstein, H. Copthorne, The Drive, W. Brighton.
 Bolt, A. I. London Orphan Asylum, Watford.
 Bulloch, M. Walthamstow Hall, Sevenoaks.
 Byatt, E. Edinburgh House, Milhurst.
 Cheeseman, E. M. Farrington House, Chichester.
 Dunn, B. M. Grosvenor House, Bridport.
 Gibaut, A. S. mu. Ashton House School, Jersey.
 Hines, C. C. Highleigh House S., St. John's, S.E.
 Houghton, A. Meadowslands, Ashton-on-Mersey.
 Johnson, M. 7 Hyde Terrace, Tollington Park.
 Lane, M. A. Girls' High School, Bournemouth.
 Ledgerwood, R. H. Private tuition.
 Meadows, F. E. Burleigh House, Ipswich.
 Nollist, J. St. John's Pk. House S., Highgate.
 Paige, A. Highfield College, Chislehurst.
 Rogers, F. Kidderminster High School.
 Wells, E. M. St. Kilda's, St. Leonards-on-Sea.
 Baker, C. M. Kensington House, Birkenhead.
 Baker, E. M. Private tuition.
 Bolland, M. E. d. Ebor, Parkstone, Dorset.
 Cockin, E. J. Walthamstow Hall, Sevenoaks.
 Farrow, E. M. Clifton House S., Bracknell, Berks.
 Ginn, A. L. Crescent House College, Bedford.
 Kemp, E. M. Westgate House, Peterborough.
 Royston, E. Holt House School, Fakenham.
 Saville, A. M. Salem House, Sunderland.
 Watkin, L. S. London College, Brixton Road.
 Wooler, M. M. Clarence House, Filey.
 Wright, F. E. Ashley House School, Worksop.
 Burn, E. 100 Broadhurst Gdns., Hampstead.
 Day, M. F. H. Kidderminster High School.
 Fisher, B. 18 Charnwood Street, Derby.
 Harmsworth, M. E. Malvern House, Reading.
 Moore, F. M. Raleigh Mid. Class S., S. Newington.
 Osborne, F. E. Lutworth Lodge, Birkdale.
 Park, K. E. The George Green Schools, Poplar.
 Westcott, E. M. U. Glenholme, Basingstoke.
 Whiteher, E. St. John's College, Brixton.
 Williams, G. Milford House S., Newport, Mon.
 Worthington, M. Collegiate High School, Didsbury.
 Brown, G. A. Buxton Lodge Collegiate S., Linton.
 Canning, B. The Ferns, Green Lanes, N.
 Cox, E. R. Southampton Girls' College.
 Cummings, K. C. Longbrigg House, Ambleside.
 Davie, M. G. The George Green Schools, Poplar.
 Elsie, H. Beech Lawn, Leamington.
 Fisher, N. Richmond & Twickenham High S.
 Hall, E. Alton House, Harrogate.
 Hunter, J. M. Tudor House, Brixton Road.
 Inman, D. H. London Orphan Asylum, Watford.
 Moodie, M. London Orphan Asylum, Watford.
 Mosserop, R. Stanmore House, Weston-s.-Mare.
 Pallister, L. A. C. Darnwood House School, Banbury.
 Payne, G. Avonbank House, Bath.
 White, E. E. Monkside High School, Hastings.
 Yates, E. M. Fonthill College, Great Malvern.
 Bramham, E. L. The Coborn School, Bow Road, E.
 Campbell, E. Parish Ch. Mid. Class Girls' S., Leeds.
 Feltrupp, E. d. Brook Hill Seminary, Sheffield.
 Ferris, G. Sidcot School, Weston-super-Mare.
 Handy, N. E. Cloughton College, Birkenhead.
 Hiscock, E. M. Longford Girls' School, Bristol.
 Messiter, A. M. Moseley High School for Girls.
 Miller, M. M. 100 Broadhurst Gdns., Hampstead.
 Muir, C. L. 3 Montague Terr., Hr. Broughton.
 Nicholson, E. Terrace School, Chertsey.
 Pears, J. Ely House, Wolverhampton.
 Penney, E. M. The High School, Colchester.
 Prewett, M. C. d. West Hill, Eastbourne.
 Taylor, M. Woking High School.
 Tench, L. E. Buckingham Ho., Ravenscourt Pk., W.
 Waller, B. A. Higher Grade Girls' S., Norwich.
 Ashburn, A. Southolme High S., Manchester.
 Bones, K. Cornwallis High School, Hastings.
 Brott, M. A. Farndon House, Brighton.
 Collins, E. C. Beech Lawn, Leamington.

Cordwell, L. Stockwell High School, S.W.
 Dewe, M. Girls' High School, Bournemouth.
 Higdon, F. York Crescent School, Clifton.
 Lloyd, E. Southampton Girls' College.
 Middleton, E. A. Montpelier School, Bootle.
 Noble, M. 6 Princes Avenue, Liverpool.
 Russell, A. C. Ladies' College, Ellesmere.
 St. Hill, E. Colston's Girls' Day S., Bristol.
 Underhay, M. Laval House S., Merton, Surrey.
 Winckworth, M. Bestreben High S., Brondesbury.

Baker, E. L. Hall Gate School, Doncaster.
 Bishop, L. A. Finsbury College, Camden Rd., N.
 Brooker, G. Private tuition.
 Fletcher, E. J. Faringdon House, W. Bournemouth.
 Hill, S. E. B. 4 Trinity Terrace, Cheltenham.
 Hohman, K. M. Royal Masonic Inst., Battersea.
 Nae-Smith, D. E. Knightsville College, Lewisham.
 Paul, W. Chesterfield Lodge, Highgate.
 Richard, E. I. Walthamstow Hall, Sevenoaks.
 Rowell, E. E. The Coborn School, Bow Road, E.
 Selway, E. M. 2 South Terrace, Dorchester.
 Stainton, J. Collingwood College, Lee.
 Turner, G. Agra House S., Tunbridge Wells.
 Waddington, E. M. Newcastle House, Lewes.
 Watt, O. G. Clarence House, Filey.

Bradley, M. Woodgrange Academy, Forest Gate.
 Brown, E. M. Melbourne House Coll., Clapton Sq.
 Cubitt, C. E. Holt House School, Fakenham.
 Deane, A. A. Girls' High School, Bournemouth.
 Flinn, L. 314 Romford Road, Forest Gate.
 Gibbs, L. H. Cloughton College, Birkenhead.
 Grundy, H. Henry Street School, Bolton.
 Macpherson, S. L. Mecklenburg House, Putney Hill.
 Moore, A. W. Ladies' College, Wellington, Salop.
 Ray, W. H. Surrey House School, Norwich.
 Silley, B. T. Burlington House School, Bristol.
 Tilley, O. M. Twickenham College for Girls.

Ade, V. A. Lawn Coll., Shepherd's Bush Green.
 Beckwith, M. M. Private tuition.
 Bevan, M. H. Cambridge House, Guildford.
 Broek, K. U. Moseley High School for Girls.
 Buddicom, L. H. Bodveddyg, Towyn.
 Chapman, B. Private tuition.
 Cooh, M. Wandsworth High School for Girls.
 Frost, M. G. Vanburgh Park School, Blackheath.
 Goodlife, F. Stonegate College, Leicester.
 Holmes, M. E. M. Royal Masonic Inst., Battersea.
 Kilpatrick, M. L. East Sonthsea Collegiate School.
 Kinmins, W. E. G. Ryeford Hall, Stonehouse.
 Maddox, E. H. Arley School, Cotham, Bristol.
 Moon, C. H. Malvern House, Reading.
 Mosdall, M. E. Mount House, Melbourne, Derby.
 Muddle, L. S. Chiswick High School for Girls.
 Roberts, M. A. Melrose, Stratham.
 Watkins, M. The Hollies, Hagley Road, B'ham.

Aelfield, C. St. Winifred's School, Southampton.
 Allard, C. Forest Gate Collegiate School.
 Anstie, A. B. Private tuition.
 Chambers, F. P. Girls' Grammar School, Ripon.
 Champion, F. M. The Coborn School, Bow Road, E.
 Dunning, E. M. Private tuition.
 Dowd, I. Belle Vue, Swansea.
 Howard, M. S. North Bristol School for Girls.
 Jefferys, A. S. d. Belle Vue, Holbeach.
 Johnson, C. G. 1 Gower Street, Derby.
 Jones, A. L. Avondale, Croxteth Rd., Liverpool.
 Le Grys, M. E. Oxford College, Clacton-on-Sea.
 Nicholson, E. Gavarine House School, Sonthsea.
 Roy, M. M. 2 Ravensworth Terrace, Durham.
 Taylor, R. F. Westlands, Basingstoke.
 Tonkin, I. Milton Mount College, Gravesend.
 Webb, A. B. Red Maids' School, Bristol.
 Woodhouse, K. M. Holt House School, Fakenham.

Bloor, M. M. I. "Highfield," Highbury Place, N.
 Bramall, G. E. 3 Montagu Terrace, Hr. Broughton.
 Buckingham, B. Totnes Girls' School.
 Cadman, A. G. A. Haddo & Westwood Coll. S., Scarbro'.
 Cunningham, A. Coloma House, Croydon.
 Field, M. Alstonfield, Ashbourne.
 Galt, V. E. de M. Beech Lawn, Leamington.
 Hoeking, M. Leigh Bank, Leamington.
 Horwill, G. A. Brentford Collegiate School.
 Littleboy, M. G. Surrey House School, Norwich.
 Lyon, D. 3 Dorchester Terr., The Park, Hull.
 Pinkerton, K. M. Totnes Girls' School.
 Pursell, A. G. Brighthelmston, Birkdale.
 Ramsay, M. L. Manadon Villa School, Plymouth.
 Robson, E. Meadowslands, Ashton-on-Mersey.
 Russell, L. London Orphan Asylum, Watford.
 Simpson, F. E. d. The Lynes, Sudbury, Suffolk.
 Stanger, N. The Laurels, Canterbury.
 Thomas, E. F. 100 Broadhurst Gdns., Hampstead.
 Townsend, E. M. Private tuition.
 Walesby, K. Whitgift House School, Croydon.
 Wheatley, H. L. St. Margaret's House, Brighton.
 Witham, E. Lichfield House S., Newport, I. W.

Boulton, A. S. Kensington House, Birkenhead.
 Cross, N. K. Kidderminster High School.
 Dobbin, A. D. Margate Ladies' College.
 Ellett, L. M. London Orphan Asylum, Watford.
 Griffin, C. M. Hanover House, Ryde.
 King, A. M. Larchmount Hall, Yatton.
 Lewis, G. A. Girls' High School, Bournemouth.
 Le Rougetel, E. mu. Ashton House School, Jersey.
 Meadway, K. E. Branscombe House School, Exeter.
 Palmer, E. P. Branscombe House School, Exeter.
 Rogers, N. Claville House, S. Newington, N.
 Root, A. E. Cashibury House, Southend.
 Smith, G. d. East Sonthsea Collegiate School.
 Try, M. K. Camden School for Girls, N.W.

Butler, M. E. 26 Ashley Road, Hornsey Rise.
 Cooper, H. M. Leigh Bank, Leamington.
 Evans, M. Cathedral Rd. High School, Cardiff.
 Foster, F. St. Martin's College, Colchester.
 Harris, E. B. Red Maids' School, Bristol.
 Johnson, F. M. Mecklenburg House, Putney Hill.
 Kenyon, B. Meadowslands, Ashton-on-Mersey.
 Lee, A. E. Courtney House, Crediton.
 Lomman, M. A. Southampton Girls' College.
 Slade, E. M. 30 Hazelwood Road, Northampton.
 Smith, I. F. Totnes Girls' School.
 Steele, F. M. St. Margaret's, Montpelier, Bristol.
 Thomas, E. M. Duncan House, Clifton.

Baker, L. d. mu. Ely House, Wolverhampton.
 Baxter, M. Hanover House, Ryde.
 Blake, A. E. Eversleigh, Northampton.
 Ford, C. Breakspear College, Brockley.
 Garside, A. Eton House, Sheffield.
 Greenfield, B. E. M. Camden School for Girls, N.W.
 Hindley, H. L. Grove House, Redland, Bristol.
 Middleton, C. Buckingham Ho., Ravenscourt Pk., W.
 Miller, E. D. D. Duncan House, Clifton.
 Morter, M. Forest Gate, Collegiate School.
 Munro, J. Ashley High School, Long Sutton.
 Noble, M. G. 6 Princes Avenue, Liverpool.
 Oliver, A. St. Anne's High School for Girls.
 Phillips, I. Summerfield Hall, Maesyewmmer.
 Phillips, N. V. Hereford Ladies' College.
 Pinniger, E. A. Duncan House, Clifton.
 Plant, L. E. The Hollies, Handsworth.
 Rivers, M. D. Rosebank School, Alton.
 Ryan, S. Meadowslands, Ashton-on-Mersey.
 Stagg, C. E. Collingwood College, Lee.

Britton, W. Thornpark Girls' S., Teignmouth.
 Budden, B. H. Deyereux House, Southampton.
 Cross, D. L. Chiswick High School for Girls.
 Dorset, L. Woking High School.
 Downs, E. M. Down End, Clifton.
 Fritche, A. M. Ashleigh House, Tutbury.
 Garnier, C. Coloma House, Croydon.
 Grainger, A. A. M. Hereford Ladies' College.
 Harding, E. East Sonthsea Collegiate School.
 Hilder, E. Woking High School.
 Lowry, F. Camden School for Girls, N.W.
 Ryan, M. Meadowslands, Ashton-on-Mersey.
 Truman, B. Thornpark Girls' S., Teignmouth.
 Watson, M. Mecklenburg House, Putney Hill.
 Williams, E. E. Ingleswood College, Birmingham.
 Windebank, R. E. Ladies' School, Cosham.
 Woolf, E. E. 3 Dorchester Terr., The Park, Hull.

Briggs, M. 14 Foxhouses, Whitehaven.
 Boate, E. J. High School for Girls, Cork.
 Chadwick, F. E. C. Girls' High School, Bournemouth.
 Clark, A. L. Ashley High School, Long Sutton.
 Davies, J. Private tuition.
 Dickinson, A. Girls' Collegiate High S., Lytham.
 de Rin, P. H. V. Highfield, Highbury Place, N.
 Drewitt, E. C. Private tuition.
 Ford, D. Lonsdale House School, Southall.
 Lambert, A. M. 5 Northumberland Aven., Putney.
 Littlewood, J. St. George's House, Doncaster.
 Morgan, P. M. Sterndale School, Wallington.
 Mosserop, E. Stanmore House, Weston-s.-Mare.
 Phillips, E. Leigh Bank, Leamington.
 Pugh, B. A. Elm House School, Ealing Dean.
 Rogers, K. E. Higher Grade Girls' S., Norwich.
 Ryan, K. E. N. Haekney High S., Stamford Hill.
 Stephenson, A. B. Russell House School, Grimsby.
 Tedcastle, A. G. L. Bank House, Over.
 Tucker, F. N. Kidderminster High School.

Barnard, G. E. M. d. Royal Masonic Inst., Battersea.
 Birch, E. M. M. Heathfield, King's Heath, B'ham.
 Boyle, F. Queen St. S., Whitehaven.
 Dainty, E. A. Collingwood College, Lee.
 Davenport, E. Private tuition.
 Dixon, G. Select School, Filey.
 Fanshawe, I. Blenheim, Bournemouth.
 Garratt, J. P. Glengarry, Birkdale.
 Hardy, J. E. Westgate House, Peterborough.
 Haslam, E. C. Crescent House College, Bedford.
 Ing, A. D. N. Haekney High S., Stamford Hill.
 Page, E. C. Grosvenor House S., Forest Hill.
 Putnam, A. St. Kilda's, St. Leonards-on-Sea.
 Reed, F. B. The High School, Gravesend.
 Thomas, E. N. Mayo School, Gray's Inn Rd., W.C.
 Uttley, M. Park S., Hr. Broughton, Manchester.
 Watts, W. M. Bromley Park College, Kent.

Coleman, F. A. London Orphan Asylum, Watford.
 Elder, L. H. Fairfield, Cotham Pk., Bristol.
 France, J. E. Brighthelmston, Birkdale.
 Ginn, J. A. M. Ellerker College, Richmond Hill.
 Luley, C. J. d. Devonshire House, Carlisle.
 Mangelsdorf, L. Fellenberg School, Maidstone.
 McDonald, F. L. Grosvenor House S., Forest Hill.
 Musson, E. H. Belle Acre Terrace, Belper.
 Pickering, H. R. High School for Girls, Farnworth.
 Pollitt, G. M. Salisbury House S., Llanrwst.
 Salter, W. M. Branscombe House S., Exeter.
 Shephard, E. R. Mayo S., Gray's Inn Road, W.C.
 Shipstone, M. E. B. Walthamstow Hall, Sevenoaks.
 Sola, E. L. Girls' High School, Bournemouth.
 Toovey, F. Burton House School, Reading.
 Widdows, E. 83 Windsor Rd., Werneth, Oldham.

Bellaby, E. Western House S., Nottingham.
 Brown, M. The George Green Schools, Poplar.
 Craister, B. St. Katharine's S., Kennington Pk.
 Dalton, C. C. West Hill, Eastbourne.
 Dyke, K. Red Maids' School, Bristol.
 Fenn, A. Courtney House, Crediton.
 Fox, E. M. Private tuition.

GIRLS, SECOND CLASS.—Continued.

- Godson, M. Clergy Daughters' School, Bristol.
 Henwood, A. Westgate House, Peterborough.
 Jackson, F. St. Anne's High School for Girls.
 Lawes, F. Walthamstow Hall, Sevenoaks.
 Lethbridge, B. V. Lynton House School, Margate.
 McKenzie, L. Fellenberg School, Maidstone.
 Richardson, A. Milton Mount College, Gravesend.
 Tyrrell, G. A. Mountside High School, Hastings.
 Watzig, A. M. The Ladies' College, Newport, Mon.
 Westrip, M. Edgeworth House S., Finsbury Pk.
- Baker, K. I. West End House, Wellingborough.
 Ball, D. M. Stanmore House, Weston-s.-Mare.
 Barnstein, E. Ladywell House, Dover.
 Clark, J. M. K. Kensington House, Birkenhead.
 Edmunds, C. A. Kidderminster High School.
 Egles, M. A. Private tuition.
 Elstob, E. Milton Mount College, Gravesend.
 French, A. M. The High School, Colchester.
 Glenny, J. M. Duncan House, Clifton.
 Grayson, E. Buena Vista, Weston-super-Mare.
 Grayson, G. Claremont School, Forest Gate.
 Lawson, G. Convent School, Chestow Villas, W.
 Moss, F. Fegg Hayes House, Tunstall, Staffs.
 Oswald, E. K. Private tuition.
 Palmer, M. Burlington House School, Bristol.
 Recordon, E. K. Bromley Park College, Kent.
 Rigden, G. Belmont, Dover.
 Roberts, A. Henley House, Penarth.
 Salmon, M. York Crescent School, Clifton.
 Shillidy, A. McE. Walthamstow Hall, Sevenoaks.
 Smith, M. Brunswick House School, Carlisle.
 Tower, M. J. Private tuition.
 Walley, E. A. Fulford Field House, York.
 Wheat, E. M. Private tuition.
 Willerton, B. Belle Vue, Holbeach.
- Abraham, A. Magdalen College School, Wainfleet.
 Baker, G. B. Milford House, Abergavenny.
 Brereton, C. B. Hereford Ladies' College.
 Brown, E. C. High School, King's Lynn.
 Cole, M. Kidderminster High School.
 Edey, B. E. Montague House School, Weymouth.
 Granger, E. Cornwallis High School, Hastings.
 Grundy, S. E. Mount House, Melbourne, Derby.
 Jones, A. M. Brooklyn House, Wellington, Salop.
 Jones, F. M. Belmont House, Derby.
 Jones, M. A. Devonshire House S., Wineanton.
 Ludbrook, A. E. The Coborn School, Bow Road, E.
 Preller, M. 28 Vernon Terrace, Brighton.
 Stanford, M. Grove House, Redland, Bristol.
 Wright, H. Mowbray Place, Sowerby, Thirsk.
- Ball, E. W. 314 Romford Road, Forest Gate.
 Dixon, M. M. Private tuition.
 Le Four, E. M. Ashton House School, Jersey.
 Mackley, E. B. Surrey House School, Norwich.
 Mayes, W. P. Queenswood, Clapham Park.
 Townsend, P. Abbey House School, Selby.
 Willecks, D. East Southsea Collegiate School.
 Willett, A. Retley Ladies' College, Crewe.
- Beard, E. Salem House, Sunderland.
 Borrass, B. E. Clatendon Road School, Putney.
 Bosanko, S. South Bristol Girls' High School.
 Bowie, M. C. London Orphan Asylum, Watford.
 Cochrane, M. Clergy Daughters' School, Bristol.
 Davies, D. B. 3 Montagu Terrace, Hr. Brighton.
 Gradd, W. M. High School, New Brighton.
 Jones, C. C. Red Maids' School, Bristol.
 Rees, M. East Southsea Collegiate School.
 Robson, J. S. The Coborn School, Bow Road, E.
 Sarcia, G. G. Southampton Girls' College.
 Shepherd, A. L. Boscombe High S., Bournemouth.
 Woodland, E. E. High School, New Brighton.
- Anderson, M. Girls' High School, Windsor.
 Franklin, L. M. High School, Bromyard, Worcester.
 Graves, F. Trebovir House, South Kensington.
 Harris, H. W. d. Queenswood, Clapham Park.
 Hood, M. The George Green Schools, Poplar.
 Key, L. C. West Cornwall College, Penzance.
 Mabbott, F. L. D. Wyntrop Coll., Ashton-on-Mersey.
 Moss, W. A. High School, Bromyard, Worcester.
 Read, B. M. 4 Jersey Villas, Hounslow.
 Schofield, G. Eton House, Sheffield.
 Skinner, B. South London College, Brixton Road.
 Soderberg, G. W. St. John's House, South Shields.
 Thornton, A. M. Private tuition.
 Tomkinson, A. B. A. Cae Llennor School, Carnarvon.
 Wells, M. Private tuition.
 Zrinyi, F. The Ferns, Leamington.
- Beal, L. Eton House, Sheffield.
 Blandy, M. G. Blenheim, Bournemouth.
 Collings, L. G. Baharine House School, Southsea.
 Davison, D. L. Belmont, Dover.
 Fieldsend, E. Grey Coat Hospital, Westminster.
 Harrison, C. A. The Coborn School, Bow Road, E.
 Jinks, B. E. Gunnerside School, Plymouth.
 Joseph, A. M. Fonthill College, Great Malvern.
 Kennedy, E. C. London Orphan Asylum, Watford.
 Mace, E. Lonsdale House School, Norwich.
 Maughling, M. The Coborn School, Bow Road, E.
 McQueen, E. York Crescent School, Clifton.
 Morris, M. K. Hereford Ladies' College.
 Nuth, J. W. Queen's College, Aetou.
 Nuthall, E. L. Camden House, Biggleswade.
 Smith, F. M. M. The Coborn School, Bow Road, E.
 Walford, K. Collingwood College, Lee.
 White, E. G. The Hawthorns, Ealing Common.
- Arden, H. d. St. Agnes' School, East Grinstead.
 Armstrong, A. Prospect House, St. Neots.
 Barelay, D. Melbourne House, Bodney Rd., N.E.

- Glover, A. St. George's House, Doneaster.
 Graves, A. E. Private tuition.
 Hughes, M. Margate Ladies' College.
 Lewis, E. M. Hillside, Harborne, Birmingham.
 Mackness, R. E. Palmer's Endowed School, Grays.
 McGaul, F. Rosebank School, Alton.
 Myers, S. The Coborn School, Bow Road, E.
 Parry, A. 3 Abbey Terrace, Llandilo.
 Phillips, F. H. Ashleigh House, Tutbury.
 Pywell, M. T. Leicester Rd. S., Melton Mowbray.
 Stratton, P. Arlington House S., Newport, Mon.
 Taylor, W. Boscobel, Bournemouth.
 Woodward, E. Tewkesbury High School for Girls.
 Yates, E. Summerbrook, Reading.

- Avern, L. M. B. Meeklenberg House, Putney Hill.
 Baker, E. W. Ashtree House, Sutton Coldfield.
 Bate, E. D. St. Margaret's Hr. Grade S., Lee, S.E.
 Brenerd, E. A. Wallasey House, Manchester.
 Dutton, H. G. Hartington House S., Beckenham.
 Fairbairns, M. E. Private tuition.
 Hollings, L. S. St. Katharine's S., Kennington Pk.
 Lambert, H. B. 5 Northumberland Avenue, Putney.
 Leeds, M. B. Rother House School, Lewisham.
 Levy, E. Mowbray School, Sunderland.
 Ramsden, L. St. Anne's High School for Girls.
 Rogers, E. Hatter Street S., Bury St. Edmunds.
 Selbie, E. Private tuition.
 Simms, S. Temple Square, Aylesbury.
 Southam, E. J. St. Andrew's High School, Bexhill.
 Stokes, E. S. Clermont House, Cranbrook.
 Yeates, L. Parish Ch. Mid. Class Girls' S., Leeds.

SECOND CLASS.—3RD DIVISION.

- Ahier, E. J. 14 Foxhouses, Whitehaven.
 Davies, L. T. Caerleon House, Aberystwith.
 Edwards, E. A. G. Denbigh Grammar School.
 Holloway, R. H. The Laurels School, Nottingham.
 Johnson, Muriel. 3 Dorchester Terr., The Park, Hull.
 Jones, E. S. Holly Terr. S., Stoneycroft, L'pool.
 Ludwig, F. St. Mary's S., Cholmeley Park, N.
 Moore, L. Collingwood College, Lee.
 Pailthorpe, E. L. Keswick House School, Putney.
 Rigg, L. Brunswick House School, Carlisle.
 Swallow, A. M. Walthamstow Hall, Sevenoaks.
 Tarry, E. A. Private tuition.
 Turner, H. E. Hillside, New Southgate.
 Wheeler, A. M. Wilton House School, Reading.

- Adeney, C. M. Wandsworth High School for Girls.
 Bailey, G. A. Montague House S., Weymouth.
 Bell, A. Elm House School, Ealing Dean.
 Beseoby, M. Forest Gate Collegiate School.
 Brewis, B. U. Claremont House, Sunderland.
 Davies, N. Private tuition.
 Griffiths, S. E. The High School, Willenhall.
 Hewett, E. S. Upper Mount, Southsea.
 Hirst, N. Duncan House, Clifton.
 McAndrews, E. C. Bank House, St. Columb, Cornwall.
 Mortlock, J. M. Gatley College, Hnstanton.
 Munzing, E. Margate Ladies' College.
 Phelps, M. Clergy Daughters' School, Bristol.
 Simpson, J. E. Girls' High S., Bury St. Edmunds.
 West, E. P. Brentwood School, Southport.
 Wike, B. Springfield House, Stockport.
 Wilson, M. Carlton Hill School, Exmouth.

- Archer, A. B. St. Augustine's, Margate.
 Barber, I. F. Highleigh House, St. John's, S.E.
 Chapman, E. Belle Vue, Swansea.
 Crossfield, B. L. Cambridge House S., Battersea Pk.
 Greenwood, T. Jewish High School for Girls, W.C.
 Harrauld, F. M. South Norwood High School.
 Hogg, M. Ch. of England Public S., Gravesend.
 Hughes, E. Westbourne House S., Chiswick.
 Kerr, A. M. Southampton Girls' College.
 Knapp, F. Elm House School, Ealing Dean.
 Lawes, M. Walthamstow Hall, Sevenoaks.
 Leggett, M. Eagle College, Hornsey.
 Martin, A. M. Buckingham Ho., Ravenscourt Pk., W.
 Matson, M. A. Abney Park College, N.
 Oakley, W. M. A. The Coborn School, Bow Road, E.
 Oswald, E. M. Private tuition.
 Scott, A. B. Inglewood College, Birmingham.
 Sheringham, L. E. Eversley House School, Bognor.
 Williams, M. I. Walthamstow Hall, Sevenoaks.

- Anbert, C. Twickenham College for Girls.
 Brown, E. M. Queenswood, Clapham Park.
 Clements, J. M. Lonsdale House School, Norwich.
 Matt, A. G. 29 Fern Grove, Sefton Park, L'pool.
 Oliver, C. E. Prospect House, St. Neots.
 Pilgrim, H. M. Collingwood College, Lee.
 Sanford, E. B. Branscombe House School, Exeter.
 Wallace, N. Lea Holm, Waterloo, Liverpool.
 Weeks, F. Cross Hayes House, Malmesbury.
 Wilkinson, F. High School, Retford.
 Wise, N. S. Florida College S., Southampton.

- Alexandre, E. Portland Terrace School, Jersey.
 Burchell, B. St. Anne's High School for Girls.
 Call, M. F. York Lodge, Fulham.
 Crabtree, A. Burnley Middle Class School.
 Hindson, M. Athole House, Downham Market.
 Hunter, E. Gravesend Proprietary School.
 Ingle, F. Grey Coat Hospital, Westminster.
 Mackness, E. C. Palmer's Endowed School, Grays.
 Malby, L. E. Westgate House, Peterborough.
 Newton, M. Roceabruna, Bexhill-on-Sea.
 Reid, M. Rose Hill School, Bowdon.
 Tudor, M. R. Royal Bay Terr. S., Gorey, Jersey.
 Vine, D. B. The Wooda, Bideford.

- Chamberlin, M. E. Crecent House College, Bedford.
 Eaton, E. The Cowley Schools, St. Helens.

- Griubly, H. Royal Crescent College, Margate.
 Harrauld, L. South Norwood High School.
 Jackson, E. 83 Windsor Rd., Werneth, Oldham.
 Kemp, E. F. Cambridge House S., Battersea Pk.
 Sykes-Lees, G. L. Avondale, Croxteth Rd., Liverpool.
 Whiteside, F. M. Saxonholme, Whalley Range.
 Wright, F. 7 Well's Walk, Ilkley.
 Wright, M. E. Enville Street School, Stonebridge.

- Böcker, W. Belle Vue, Swansea.
 Comer, M. Curzon House, Portsmouth.
 Goodban, A. L. Private tuition.
 Hall, J. Eton House, Sheffield.
 Hayes, M. E. Ashley House School, Worksop.
 Ness, G. I. The Mount, Darlington.
 Sydenham, D. Grosvenor House, Bridport.

- Baek, D. Forest Gate Collegiate School.
 Bagley, C. 83 Windsor Road, Werneth, Oldham.
 Bee, A. M. Marlbro' House School, Sheffield.
 Bennett, E. Windsor High School, Liverpool.
 Branton, F. K. Melbourne College, Thornton-leath.
 Brunton, M. G. Wyntrop Coll., Ashton-on-Mersey.
 Edwards, B. B. Bedford College, Liverpool.
 Evans, L. G. St. John's Park House S., Highgate.
 Evers, E. Greenhill House, Stonebridge.
 Graham, H. St. Mary's Hall, Brighton.
 Hawkes, H. C. Hatter St. S., Bury St. Edmunds.
 Moon, M. The College, Boston Spa.
 Nelson, E. M. E. Kemmendine House, Shrewsbury.
 Price, D. E. M. Retley Ladies' College, Crewe.
 Tansplin, A. M. Milford House, Abergavenny.

- Babington, N. St. John's Middle S., Kennington.
 Crookall, L. E. Walthamstow Hall, Sevenoaks.
 Harper, C. 1 Grove Street, Hull.
 Hern, C. High School, Ashburton.
 Hodge, E. 4 Trinity Terrace, Cheltenham.
 Lawson, L. M. Moorlands Girls' S., Bournemouth.
 Lewin, A. E. The Coborn School, Bow Road, E.
 Maekay, L. The Cowley Schools, St. Helens.
 Smith, M. B. Roseville College, Moseley.
 Tiddeman, N. M. I. St. Mary's Hall, Brighton.

- Allen, K. G. Walthamstow Hall, Sevenoaks.
 Beart, A. M. Hill House S., Downham Market.
 Chamberlain, F. C. M. Stamford House, Bourne, Lines.
 Clarke, R. E. Derby Middle Class School.
 Critchley, M. J. The Cowley Schools, St. Helens.
 Dickinson, A. B. Somerville House, Newcastle-on-T.
 Donaldson, A. 3 Montague Terrace, Hr. Brighton.
 Leach, E. Grove Coll., Lancaster Rd., Harrogate.
 Poole, W. Grey Coat Hospital, Westminster.
 Trearson, E. Lansdowne House S., Llandudno.
 Yates, M. Milton Mount College, Gravesend.

- Burr, E. A. Whitelands Coll. Upper S., Chelsea.
 Edmonds, F. M. Wandsworth High School for Girls.
 Harris, A. L. South Bristol Girls' High School.
 Hill, B. The High School, Willenhall.
 Humm, S. St. Agnes' School, East Grinstead.
 Leeming, I. Eaglesfield S., Higher Broughton.
 Scott, M. S. Camden School for Girls, N.W.
 Wiggins, A. F. Private tuition.

- Buckley, A. The Hollies, Hagley Road, B'ham.
 Butlin, M. Pare Bracket School, Cambrone.
 Creighton, A. Avondale, Croxteth Rd., Liverpool.
 Danby, E. Meeklenburg House, Putney Hill.
 Jeffrey, M. J. The High School, Hull.
 John, M. J. Summerfield Hall, Maccyewanner.
 Parry, E. 3 Abbey Terrace, Llandilo.
 Sinton, M. H. Private tuition.
 Sntcliffe, M. L. Burnley Middle Class School.

- Goatman, I. I. Inglewood College, Birmingham.
 Hicks, F. M. Crouch Hill High School for Girls.
 Lambert, E. 5 Northumberland Avenue, Putney.
 Long, E. F. Glencol, Deal.
 Morgan, C. Convent of Mersey, Chelsea.
 Morris, E. Cae Llennor School, Carnarvon.
 Ryder, M. E. The Laurels, Canterbury.
 Treneman, K. E. Gunnerside School, Plymouth.

- Bell, J. Belmont House, Derby.
 Brack, E. The George Green Schools, Poplar.
 Daft, F. Hightfield, Harrogate.
 Evans, E. Castle House, Great Malvern.
 Holdgate, F. G. Hill House S., Downham Market.
 Lodge, E. The College, Grove St., Liverpool.
 Neame, M. J. Camden School for Girls, N.W.
 Newell, M. The Rookery, King's Norton.
 Redgrave, E. M. Melrose House, Ashford.
 Stewart, A. T. The Climb, Forest Hill.
 Thomas, L. E. Royal Masonic Inst., Battersea.
 White, D. F. Montague House S., Weymouth.

- Clarkson, E. C. Private tuition.
 Curwen, V. A. Cloughton College, Birkenhead.
 Fiske, N. E. Walthamstow Hall, Sevenoaks.
 Goodland, E. High School, Walton-on-Thames.
 Lneas, A. Milton Mount College, Gravesend.
 Wilson, F. E. Ashby College, Broekley.

- Booth, E. B. Plas Madoc, Rhabon.
 Chambers, E. H. L. Ellerker College, Richmond Hill.
 Cowell, C. G. Arley School, Cotham, Bristol.
 Hornsby, M. Grey Coat Hospital, Westminster.
 Reavley, L. E. St. John's House, South Shields.
 St. Clair Colson, K. Convent School, Southampton.

- Arthy, C. Forest Gate Collegiate School.
 Atkinson, E. St. Anne's High School for Girls.
 Garlitt, M. I. 83 Windsor Bd., Werneth, Oldham.
 Hill, E. F. The High School, Willenhall.
 Jasper, E. E. Montrose House, Margate.
 Knight, E. Ellerker College, Richmond Hill.
 Leach, F. L. Collingwood College, Lee.
 Lund, E. Brooklyn House, Wellington, Salop.

GIRLS, SECOND CLASS—Continued.

- Moffatt, G. 5 Northumberland Avenue, Putney.
 Parkin, K. M. Private tuition.
 Rogers, L. Clauville House, S. Newington, N.
 Smith, E. M. E. Northote Girls' School, Armley.
 Stenlake, B. Gumeride School, Plymouth.
 Steele, F. A. Devereux House, Southampton.
 Todd, L. M. Eversley High School, Eastbourne.
 Vitler, E. Mountside High School, Hastings.
 Wiltshire, W. Boscombe High S., Bournemouth.
 Fenn, M. Teddington Coll., Up. Teddington.
 O'Meara, K. Coloma House, Croydon.
 Sare, K. C. Mayall College, Brixton.
 Summers, L. M. Walthamstow Hall, Sevenoaks.
 Walker, M. Ellerker College, Richmond Hill.
 Calvert, G. St. Anne's High S. for Girls.
 Disney, E. The Coborn School, Bow Road, E.
 Gibbs, A. J. Camden School for Girls, N.W.
 Jones, A. Abertillery Grammar School, Mon.
 Thompson, K. A. 3 Dorchester Terr., The Park, Hull.
 Turner, E. F. Kenilworth High S., Garston, L'pool.
 Rose, L. F. Red Maids' School, Bristol.
 Barker, L. Crescent House College, Bedford.
 Griffin, E. H. The Mount School, Banbury.
 Hodgson, A. Brookside School, Darlington.
 Barr, J. The Mount, Darlington.
 Bartlett, W. M. Hawkstone, Southport.
 Cox, D. Crouch Hill High School for Girls.
 Grey, A. F. Belmont School, Clapham.
 Handley, E. M. Abney Park College, N.
 Hart, H. A. The Coborn School, Bow Road, E.
 Hawkus, M. M. Royal Crescent College, Margate.
 Long, L. M. A. Mayall College, Brixton.
 Rhodes, F. R. The High School, Gravesend.
 Robinson, G. M. 174 Church St., Stoke Newington.
 Fencoeck, M. L. Buckingham Ho., Ravenscourt Pk., W.
 Sewell, G. 4 Endsleigh Gardens, N.W.
 Beazley, A. M. Camborne House, Torquay.
 Lovegrove, I. Summerbrook, Reading.
 Pollard, F. Lansdowne House, St. Columb.
 Square, B. G. E. Private tuition.
 Wolf, M. G. Private tuition.
 Wright, K. E. Royal Crescent College, Margate.
 Harland, G. Eastholme, Cottingham, Hull.
 Johnson, A. M. Mornington House, Gt. Yarmouth.
 Mann, C. E. Crescent House College, Bedford.
 Turner, L. Bedford College, Liverpool.
 Cubley, J. Dunoon House School, Newark.
 Hearn, N. St. Mary's S., Cholmeley Park, N.
 Storey, A. M. Park Hall, Longton, Staffs.
 Thom, W. M. Moravian Ladies' S., Ockbrook.
 Danby, C. Victory Terrace, Coatham, Redcar.
 Mackwood, E. T. The George Green Schools, Poplar.
 Trewitt, L. The High S., Stockton-on-Tees.
 Davenport, J. Portland St. High S., Manchester.
 Edwards, E. M. Wellington College, Hastings.
 Spindelov, F. St. Margaret's Hr. Grade S., Lee, S.E.
 White, E. M. The Coborn School, Bow Road, E.
 Dimond, E. Woolwich and Plumstead High S.
 Goulding, M. E. Ashley House School, Worksop.
 Leyland, L. L. The Cowley Schools, St. Helen's.
 Macintosh, M. Girls' Collegiate High S., Lytham.
 Rees, A. F. Private tuition.
 Hall, B. M. Beech House School, Eccles.
 Master, C. E. St. Mary's Hall, Brighton.
 Self, F. Lichfield House S., Newport, I. W.
 Twigg, I. F. Acock's Green Coll. S., B'ham.
 Walde, C. F. St. Mary's Hall, Brighton.
 Williams, E. M. College House, Bridgwater.
 Garnett, M. Victory Terr., Coatham, Redcar.
 Grayston, D. M. Field House, Worcester.
 Pollard, A. H. College House, Bridgwater.
 Woolf, L. R. Pombal House, West Brighton.
 Brace, L. M. Boughrood House College, Breeon.
 Murphy, M. Convent of Loreto, Hulme.
 Horrell, M. E. Haddo & Westwood Coll. S., Scarbro'.
 Piper, E. E. Higher Grade Girls' S., Norwich.
 Farish, M. Newnham House S., Grantham.
 Goulding, L. Holland House, Beverley.
 Taylor, M. F. Oaklea, Eastbourne.
 Anderson, M. E. Queen's Park College, W.
 Craven, D. M. d. Stoke Newington High School, N.
 Dobby, A. E. Arundel House, Scarborough.
 Hurston, L. M. Leigh Bank, Leamington.
 Jenkins, H. M. d. Camden School for Girls, N.W.
 Reid, M. mu. Etchingham Pk. School, Finchley.
 Simms, E. H. Private tuition.
 Stephenson, J. Girls' Grammar School, Bingley.
 Uttley, M. B. Park S., Hr. Broughton, Manchester.
 Wadman, E. A. M. Montague House S., Weymouth.
 Austin, A. B. College House, Hungerford.
 Dodd, A. B. Claremont, Margate.
 Potter, M. C. Fonthill College, Great Malvern.
 Turpin, C. E. Collingwood College, Lee.
 Balls, E. H. Queen's College, Wood Green.
 Charles, M. Haberdashers' School, Hoxton.
 Manger, J. N. Hackney High S., Stamford Hill.
 Miller, C. R. St. Margaret's, Montpelier, Bristol.
 Piper, F. E. A. Higher Grade Girls' S., Norwich.
 Preston, L. A. Carden School, Peckham Rye.
 Alston, E. E. 76 Guildhall St., Bury St. Edmunds.
 Dixon, V. M. Private tuition.
 Hughes, C. S. d. Lawn Coll., Shepherd's Bush Green.
 Kay, M. People's Coll. Girls' S., Nottingham.
 Masters, I. mu. Twyford House, K. Henry's Rd., N.W.
 Percival, M. R. d. Buxton Lodge Collegiate S., Luton.
 Buskin, E. L. St. Hilda's, Worthing.
 Dalton, R. Leicester High School for Girls.
 Darraeott, A. P. Rosebank School, Alton.
 Duncan, L. Lenten House, Alton.
 Knight, I. D. d. Royal Masonic Inst., Battersea.
 Fellow, K. Maidenhead High School for Girls.
 Ellis, E. M. Westbourne House S., Chiswick.
 Fancourt, V. M. Chaslesley House, Syscon, Leicester.
 Lamaison, E. F. Private tuition.
 Lock, E. Twickenham College for Girls.
 Maples, L. L. M. d. Camden School for Girls, N.W.
 Vacher, M. M. F. St. Hildred's, Southsea.
 Baber, E. F. Larchmount Hall, Yatton.
 Cohen, J. A. San Remo, Eastbourne.
 Evans, J. M. Dunoon House, Clifton.
 Francis, E. L. Curzon House, Portsmouth.
 Green, B. mu. High School, King's Lynn.
 Guy, G. G. Wellington House, Hailsham.
 Massie, C. J. Stroud Green and Hornsey High S.
 Maynard, A. M. Private tuition.
 Reid, G. A. Grey Coat Hospital, Westminster.
 Seddon, C. M. Leicester High School for Girls.
 Brown, F. Red Maids' School, Bristol.
 Collingham, E. Private tuition.
 Kent, E. F. Westgate House, Peterborough.
 Naumann, E. Stoke Newington High School, N.
 Weir, C. M. Malvern House School, Birkdale.
 Bland, F. Queen's College, Wood Green.
 Brand, E. J. Brean Down House S., Burnham.
 Chard, M. Edgeworth House S., Finsbury Pk.
 Collett, A. S. d. Sidcot School, Weston-super-Mare.
 Goosey, I. M. S. Michael's Avenue S., Northampton.
 Harrison, G. Avenicum High School, York.
 Horne, E. B. Kingsland House S., Birkenhead.
 Keyte, E. C. Parish Ch. Mid. Class Girls' S., Leeds.
 Row, F. Lenten House, Alton.
 Sugden, J. Riverstead, Waterloo, Liverpool.
 Taylor, A. Calverley House, St. Anne's-on-Sea.
 Baverstock, M. Royal Masonic Inst., Battersea.
 Conmah, S. H. Harcourt Lodge, Anerley.
 Giraud, H. M. d. Helena High S., Burgess Hill, Sussex.
 Hawksley, M. M. Claremont, Margate.
 Jackson, M. A. The Crossley & Porter S., Halifax.
 Morley, F. Gresham College, Brixton.
 Newhouse, E. M. Higher Grade Girls' S., Norwich.
 Nicholl, H. M. Fairfield College, Exmouth.
 Sanders, C. M. F. The High School, Colchester.
 Woodhouse, V. Caerleon House, Aberystwith.
 Bonsor, K. E. nat. People's Coll. Girls' S., Nottingham.
 Clement, E. M. Arlington House S., Newport, Mon.
 Chaudler, E. H. College House, Hungerford.
 Finney, E. G. People's Coll. Girls' S., Nottingham.
 Issard, D. M. High School, Newtown, Mont.
 Piggitt, F. People's Coll. Girls' S., Nottingham.
 Watson, C. H. The Westlands, Scarborough.
 Wintle, M. H. d. Alexandra College, Shirley.
 Biddle, E. S. Burgess Hill High School, Sussex.
 Chapman, L. Parish Ch. Mid. Class Girls' S., Leeds.
 Hansell, L. M. Avonbank House, Bath.
 Nicholls, M. d. Girls' Collegiate High S., Lytham.
 Winstanley, A. G. Crofton Leigh, Bowdon.
 Young, G. d. Girls' High School, Windsor.
 Archbold, M. Parish Ch. Mid. Class Girls' S., Leeds.
 Elliott, E. Lea Holm, Waterloo, Liverpool.
 Forster, M. E. The Cowley Schools, St. Helens.
 Fowler, G. Stanley House School, Durham.
 Hughes, A. F. Royal Masonic Inst., Battersea.
 Hornsby, E. T. Royal Masonic Inst., Battersea.
 Royston, L. Girls' Grammar School, Bingley.
 Thomas, E. G. Blaenwern Ho., N. Quay, Llandysul.
 Turpin, E. M. Agra House School, Tunbridge Wells.
 Woodman, J. E. Hr. Grade S., Atherton, Manchester.
 Dix, L. A. Higher Grade Girls' S., Norwich.
 Dye, L. M. Lewisham Middle Class School.
 Harris, L. E. J. Woodside Ladies' School, Redhill.
 Hobgen, F. N. Eversley House School, Bognor.
 Newman, G. M. Brighthelmston, Birkdale.
 Pearson, E. M. Melrose College, St. Leonards.
 Piper, M. 7 Hyde Terrace, Tollington Park.
 Simpson, M. E. Grove House, Southend.
 Stovold, G. E. Cambridge House, Guildford.
 Tier, C. N. "Holmfield," Southport.
 Webb, J. V. Queenswood, Clapham Park.
 Chiuneck, W. E. Royal Masonic Inst., Battersea.
 Dignasse, F. Sultan House, Margate.
 Dinmoock, F. Woking High School.
 Ford, M. A. Ripley House, Bury St. Edmunds.
 Lyon, A. G. The Cowley Schools, St. Helens.
 Mason, M. Beech Lawn, Leamington.
 Parkhouse, J. Margate Ladies' College.
 Sadler, M. mu. 103 Hagley Road, Edgbaston.
 Smith, F. A. Royal Masonic Inst., Battersea.
 Turkuud, V. Thrievie School, Hampstead.
 Wait, A. I. Colston's Girls' Day S., Bristol.
 Wood, A. M. Grosvenor House, Hornsea.
 Bamford, W. Milton Mount College, Gravesend.
 Cooke, N. d. The Westlands, Scarborough.
 Ellis, E. C. Beauchers, Wandsworth Common.
 Hey, F. E. People's Coll. Girls' S., Nottingham.
 Jones, M. E. Claremont, Margate.
 Marshall, J. E. Braybrooke College, Hastings.
 Minnis, L. L. Albert House, Harrogate.
 Money, A. A. The Paignton High S. for Girls.
 Morgan, A. M. Ladies' College, Goudhurst.
 Nash, I. 36 Fenwick Road, East Dulwich.
 Rudwick, M. E. Eversley House School, Bognor.
 Russell, A. M. Ladies' College, Ellesmere.
 Sanders, N. H. Dashwood House School, Banbury.
 Thompson, M. E. Private tuition.
 Turner, M. Agra House S., Tunbridge Wells.
 Wharton, E. E. d. Buxton Lodge Collegiate S., Luton.
 Wilkes, W. P. Camden School for Girls, N.W.
 Arnott, E. H. Holland House, Beverley.
 Barnes, E. M. Kent College, Folkestone.
 Bower, G. The High School, Dewsbury.
 Fox, L. E. d. People's Coll. Girls' S., Nottingham.
 Gaskin, M. The Cowley Schools, St. Helens.
 Gibson, M. High School for Girls, Cork.
 Hull, L. G. Eastnor House School, Hereford.
 Mason, D. Private tuition.
 Mayne, K. Camden House, Leighton Buzzard.
 McDowell, N. Higher Grade Girls' S., Norwich.
 Oaken, F. W. B. Alstonefield, Ashbourne.
 Payn, A. S. Sidcot School, Weston-super-Mare.
 Seymour, F. M. Higher Grade School, Huntingdon.
 Stodden, W. Lansdowne House, St. Columb.
 Ball, H. Lansdowne House, St. Columb.
 Bradford, M. Polytechnic Girls' School, W.
 Brinkworth, M. Buena Vista, Weston-super-Mare.
 Brown, E. d. Sidcot School, Weston-super-Mare.
 Compand, L. G. The Crossley & Porter S., Halifax.
 Cryer, E. Breck Villa S., Poulton-le-Fylde.
 Freeman, M. J. P. College House, Hungerford.
 Hart, E. Beaver House, Farnham.
 Hexter, W. Clergy Daughters' School, Bristol.
 Milward, A. M. Private tuition.
 Pepper, M. E. Trafalgar Square S., Scarborough.
 Pitt, E. M. Southampton Girls' College.
 Rickards, E. M. Moseley Ladies' College.
 Weaver, E. Stroud Green & Hornsey High S.
 Archer, J. The Towers School, Saltburn.
 Baker, F. L. d. West End House, Wellingborough.
 Beauchamp, H. M. Vale View House School, Devizes.
 Boyce, L. A. High School, King's Lynn.
 Buntin, J. L. Kensington House, Birkenhead.
 Carter, G. L. Vale View House School, Devizes.
 Cusel, F. J. Gresham College, Brixton.
 Davey, L. F. Tunbridge House S., Twickenham.
 Dobby, L. M. Arundel House, Scarborough.
 Dollman, A. J. St. Margaret's House, Brighton.
 Durran, E. M. Dashwood House School, Banbury.
 Ferguson, M. A. Eversley, Bexhill-on-Sea.
 Foster, C. H. Glengarry, Birkdale.
 Isherwood, J. Sidcot School, Weston-super-Mare.
 Lock, S. High School, King's Lynn.
 Martin, E. M. The High School, Stockton-on-Tees.
 Needham, F. Brazenose School, Stamford.
 Newton, M. J. Girls' Grammar School, Bingley.
 Nottingham, E. The Crossley & Porter S., Halifax.
 Plugge, M. Eilerslie House School, Hull.
 Pugh, E. M. Private tuition.
 Stratford, B. E. E. The Laurels, Canterbury.
 Tettenborn, O. K. Royal Masonic Inst., Battersea.
 Thatcher, A. Sultan House, Margate.
 Wadman, E. E. d. Sidcot School, Weston-super-Mare.
 Young, J. d. Milton Mount College, Gravesend.
 Buckney, C. M. d. 4 Endsleigh Gardens, N.W.
 Carter, C. Cross Hayes House, Malmesbury.
 Charbonnier, F. M. d. High School for Girls, Barnstable.
 Collier, A. D. Etchingham Park School, Finchley.
 Furlonger, M. A. Belmont House, Alton.
 Knight, M. B. Roseville College, Moseley.
 Large, S. Beaufort House S. Stratford-on-Avon.
 Lucas, E. St. Helier's College, Shifnal.
 Porter, F. Athole House, Downham Market.
 Reynolds, A. H. Handsworth Ladies' College.
 Stook, K. F. Larchmount Hall, Yatton.
 Vivian, C. E. Grammar School, Hayle.
 Walter, E. N. The Hill House School, Warwick.
 Elder, A. E. Camden School for Girls, N.W.
 Freeston, C. Stanmore House, Weston-s-Mare.
 Glaisyer, L. J. Sidcot School, Weston-s-Mare.
 Minniff, F. M. Lynton House School, Margate.
 Moore, M. Tewkesbury High School for Girls.

THIRD CLASS.—1ST DIVISION.

- Bishop, M. L. d. The Climb, Forest Hill.
 Macdonald, D. d. Convent of Loreto, Hulme.
 Benn, E. C. St. Katharine's, Eastbourne.
 Seacome, L. 7 Well's Walk, Ilkley.
 Love, E. V. P. d. Blenheim, Bournemouth.
 Walker, L. C. d. Ashby House School, Eastbourne.
 Harvey, A. S. Arlington House S., Newport, Mon.
 Hill, A. Higher Grade Girls' S., Norwich.
 Yeoman, A. nat. People's Coll. Girls' S., Nottingham.
 Prætorius, S. E. R. Pretoria House, Folkestone.
 Krul, M. A. ger. Private tuition.
 Bush, M. Convent of Loreto, Hulme.
 Hamath, I. S. St. Martin's College, Colchester.
 Hoysted, B. B. Holland House, Beverley.
 Scott, M. Fern Bank, Wandsworth Common.
 Knowles, C. B. d. St. Katharine's, Eastbourne.
 Sharpe, E. M. d. Bexley College, Kent.
 Stokes, M. W. M. Larkstone, Malvern.
 Wood, M. E. People's Coll. Girls' S., Nottingham.
 Campbell, C. M. Private tuition.
 Dixon, E. M. d. Camden School for Girls, N.W.
 Richardson, H. H. nat. People's Coll. Girls' S., Nottingham.
 Baylis, D. E. L. Kidderminster High School.
 Moss, K. Malvern House School, Birkdale.
 Cook, E. M. d. Camden School for Girls, N.W.
 Michael, E. Royal Masonic Inst., Battersea.
 Dockray, M. Parish Ch. Mid. Class Girls' S., Leeds.
 Egles, E. F. Private tuition.
 Hart, E. Haberdashers' School, Hoxton.
 Hooper, M. V. St. Isan's Llanishen, Cardiff.
 Waddington, M. Girls' Grammar School, Bingley.
 Archbold, M. Parish Ch. Mid. Class Girls' S., Leeds.
 Elliott, E. Lea Holm, Waterloo, Liverpool.
 Forster, M. E. The Cowley Schools, St. Helens.
 Fowler, G. Stanley House School, Durham.
 Hughes, A. F. Royal Masonic Inst., Battersea.
 Hornsby, E. T. Royal Masonic Inst., Battersea.
 Royston, L. Girls' Grammar School, Bingley.
 Thomas, E. G. Blaenwern Ho., N. Quay, Llandysul.
 Turpin, E. M. Agra House School, Tunbridge Wells.
 Woodman, J. E. Hr. Grade S., Atherton, Manchester.
 Dix, L. A. Higher Grade Girls' S., Norwich.
 Dye, L. M. Lewisham Middle Class School.
 Harris, L. E. J. Woodside Ladies' School, Redhill.

GIRLS, THIRD CLASS—Continued.

Moustardier, A. Haberdashers' School, Hoxton.
 Pettitt, J. Stoke Newington High School, N.
 Wolsey, L. Grey Coat Hospital, Westminster.
 Young, E. Mayall College, Brixton.

Barefoot, C. F. Maidenhead High School for Girls.
 Barton, D. Kidderminster High School.
 Bird, I. A. Devonshire House S., Wincanton.
 Brett, F. E. Queenswood, Clapham Park.
 Christie, A. Longley House S., Easingwold.
 Cockram, K. T. "The Elms," Stow-on-the-Wold.
 Cole, F. 314 Romford Road, Forest Gate.
 Davidson, E. M. Ellerker College, Richmond Hill.
 Flanagan, N. d. Eversley, Bexhill-on-Sea.
 Gracie, M. Milford House S., Newport, Mon.
 Holmes, M. The Westlands, Scarborough.
 Jones, M. Girls' High School, Bridgwater.
 Needham, M. J. Grosvenor House, Bridport.
 Norcliffe, G. The Crossley & Porter S., Halifax.
 Reuter, E. Eversley, Bexhill-on-Sea.
 Robson, A. B. Friends' School, Saffron Walden.
 Smith, M. S. The Mount School, Banbury.
 Trauter, A. C. Cambridge House, Guildford.
 Vigor, E. Polytechnic Girls' School, W.
 Warburton, M. C. Private tuition.

Barnes, M. Fellenberg School, Maidstone.
 Bromhall, B. Polytechnic Girls' School, W.
 Fisher, M. Queen's Park College, W.
 Gawtress, A. The Crossley & Porter S., Halifax.
 Harrod, M. S. 9 Kingsgate St., Winchester.
 Hewitt, C. W. Newnham House S., Grantham.
 Jameson, N. Girls' Collegiate High S., Lytham.
 Leeming, E. B. The Crossley & Porter S., Halifax.
 Lowe, F. J. Arundel House, Scarborough.
 Ridler, M. Milton Mount College, Gravesend.
 Taylor, E. G. Gravelly Hill High S., Birmingham.
 Thomas, F. E. Grosvenor House, Bridport.
 Thorne, E. Hereford Ladies' College.
 Walker, E. M. Collingwood College, Lee.
 Walters, L. M. n.d. People's Coll. Girls' S., Nottingham.
 Walton, F. S. Breakspear College, Brockley.

Ashby, M. Sidcot School, Weston-super-Mare.
 Bandains, A. E. Ashton House School, Jersey.
 Beeston, G. Haberdashers' School, Hoxton.
 Bellamy, G. M. Camden School for Girls, N.W.
 Blake, E. M. The Woodroghs, Moseley.
 Burn, E. A. Larchmont Hall, Yatton.
 Carver, L. M. The Bungalow, Seaford.
 Chapman, E. Polytechnic Girls' School, W.
 Duncan, B. d. Twyford House, K. Henry's Rd., N.W.
 Elliott, G. Girls' High School, Bournemouth.
 Farrer, E. A. R. Calverley House, St. Anne's-on-Sea.
 Fase, N. Modern High School, Penge.
 Fraser, F. B. Essex House S., Woodford Green.
 French, E. E. Holland House, Beverley.
 Frost, F. Old Abbey School, Derby.
 Green, A. M. Western House School, Nottingham.
 Jones, N. Girtton House, Wolverhampton.
 Laycock, E. M. Girls' Grammar School, Keighley.
 Lidstone, A. M. Camden School for Girls, N.W.
 Machon, G. M. Colston's Girls' Day School, Bristol.
 Moss, E. H. Kent College, Folkestone.
 Newson, F. I. Broomfield, Kew.
 Prentice, A. M. M. St. Helier's College, Shifnal.
 Schotfield, E. A. G. Camden School for Girls, N.W.
 Summersby, B. Malvern House School, Birkdale.
 Ward, G. T. Strond Green and Hornsey High S.
 Wilson, G. M. d. Crescent House College, Bedford.
 Winter, W. M. Beaufort Ho.S., Stratford-on-Avon.

Ames, E. M. Belmont House, Alton.
 Avery, R. E. Camden School for Girls, N.W.
 Bamber, A. St. Anne's High School for Girls.
 Benson, M. A. The Crossley & Porter S., Halifax.
 Branson, M. E. Oak House, Leamington.
 Burgess, D. A. Highfield, Harrogate.
 Carter, M. R. People's Coll. Girls' S., Nottingham.
 Coates, F. Claremont House, Sunderland.
 Cole, M. M. Higher Grade Girls' S., Norwich.
 Cooper, L. H. Leigh Bank, Leamington.
 Ellis, K. Grey Coat Hospital, Westminster.
 Goward, A. M. Girls' Grammar School, Ripon.
 Hankin, C. M. Eversleigh High S., Eastbourne.
 Lee, A. Milton Mount College, Gravesend.
 Love, M. M. d. Blenheim, Bournemouth.
 Macbeth, A. M. Moseley High School for Girls.
 Turner, O. H. Metchingham Park S., Finchley.
 Weiss, A. Haberdashers' School, Hoxton.
 Whitehouse, S. K. Moseley High School for Girls.
 Williams, A. B. Twickenham College for Girls.

Atkinson, M. The Westlands, Scarborough.
 Chesterfield, E. Lenten House, Alton.
 Criswick, H. E. Private tuition.
 Goodspeed, B. Edgeworth House S., Finsbury Park.
 Grey, L. R. Bexley College, Kent.
 Hicks, G. Strond Green and Hornsey High S.
 Houlton, G. B. Fonthill College, Great Malvern.
 Howard-Reynolds, E. N. D. Branksome Coll., Milford-on-S.
 Hughes, E. K. Ashleigh House, Tintbury.
 Jackson, M. L. 46 London Road, Carlisle.
 Langstaff, C. M. Sontholme High S., Manchester.
 Lowe, M. M. St. Helier's College, Shifnal.
 Mayman, L. The High School, Dewsbury.
 Moon, E. Girls' High School, Bournemouth.
 Saunders, E. E. Camden House, Biggleswade.
 Smith, E. J. 1 Gower Street, Derby.
 Taylor, L. C. Colston's Girls' Day S., Bristol.
 Thompson, M. A. Girls' Grammar School, Bingley.
 Underhill, M. Edgbaston Academy.
 Wraight, A. E. J. Ladies' Coll. Wellington, Salop.
 Wright, E. Haberdashers' School, Hoxton.

Aldis, N. S. Kendrick Girls' School, Reading.
 Ashby, M. E. Fernside, Grantham.
 Baker, M. G. Kent College, Folkestone.
 Biggs, E. A. T. Private tuition.
 Coates, H. The Towers School, Saltburn.
 Dodd, M. Carrick House, Bampton.
 Dreaper, J. R. H. Sutherland House S., Clapham.
 Fenton, C. V. Private tuition.
 Grimes, M. M. Higher Grade Girls' S., Norwich.
 Hares, A. F. Twickenham College for Girls.
 Jennings, E. Colston's Girls' Day S., Bristol.
 Long, K. I. Eton House, Bridgwater.
 Norton, C. d. Oakley House, Handsworth.
 Philips, E. B. Cricklewood High School.
 Ringer, A. M. Connaught House S., Attleboro'.
 Stamp, L. M. Grey Coat Hospital, Westminster.
 Standerwick, A. R. North Bristol School for Girls.
 Stephens, F. I. Manadon Villa School, Plymouth.
 Stratton, C. S. Mayfield, Marlborough.
 Wardel, M. G. Camden School for Girls, N.W.
 Watson, M. E. People's Coll. Girls' S., Nottingham.
 Wike, F. Springfield House, Stockport.
 Williams, M. F. Eton House, Cheltenham.

Adcock, A. J. Fernside, Grantham.
 Balls, M. M. Queen's College, Wood Green.
 Banker, E. C. Mayo School, Gray's Inn Rd., W.C.
 Barber, C. M. Ashley House School, Worksop.
 Bignmore, E. G. L. Buxton Lodge Collegiate S., Luton.
 Burbridge, H. B. Leighton House School, Minchad.
 Burcham, M. E. Sidcot School, Weston-super-Mare.
 Cavanaugh, R. Alton House, Harrogate.
 Coles, B. A. High School, Blandford.
 Collins, C. L. d. Handsworth Ladies' College.
 Dayson, E. M. Laurel Road S., Fairfield, Liver pool.
 de Ugarte, M. Convent of Loreto, Hulme.
 Fuller, C. 31 Carnarvon Road, Stratford.
 Goodchild, M. Forest Gate Collegiate School.
 Greenwood, M. Queenswood, Clapham Park.
 Harford, F. E. South Bristol Girls' High School.
 Harper, M. E. 21 Bear Street, Barnstable.
 Harris, K. Melrose College, St. Leonards.
 Harrop, A. Ladies' College, Wellington, Salop.
 Jenmett, M. K. Private tuition.
 Lees, J. d. Hillside, Harborne, Birmingham.
 Mayer, M. M. A. Private tuition.
 McQueen, E. York Crescent School, Clifton.
 Morley, M. Friends' School, Saffron Walden.
 Parker, M. E. Stoke Newington High School, N.
 Pick, E. M. Brazenose School, Stamford.
 Pierpoint, M. J. The Cowley Schools, St. Helen's.
 Smith, J. E. Colston's Girls' Day S., Bristol.
 Smith, M. H. The Hollies, Malvern.
 Stretch, M. M. The Manor House, Uttoxeter.
 Tuxford, E. M. Higher Grade School, Huntingdon.
 Webb, L. M. Berwick House School, Bath.

Barrett, E. E. The George Green Schools, Poplar.
 Blackford, A. F. Fordington House S., Bournemouth.
 Brown, E. M. Inglewood College, Birmingham.
 Carrodus, L. Girls' Grammar School, Bingley.
 Cavston, E. M. Bromley Park College, Kent.
 Chamberlayne, J. F. S. 50 St. John's Park, Highgate Hill.
 Chaplin, G. G. E. 72 Marquess Road, Canonbury.
 Cooke, L. M. Norfolk House, Gosport.
 Earle, M. W. Harley House School, Hereford.
 Elgar, M. A. Sultan House, Margate.
 Garner, M. B. The Cowley Schools, St. Helen's.
 Harper, B. Summerland College, Honiton.
 Harper, C. A. The Hill House School, Warwick.
 Holland, C. Henry Street School, Bolton.
 Jackson, E. L. High School for Girls, Cork.
 Keech, R. Polytechnic Girls' School, W.
 King, A. E. Castle House, Great Malvern.
 Lee, N. Temple Square, Aylesbury.
 Mason, W. Private tuition.
 Merrett, H. St. John's Middle S., Kennington.
 Millican, M. I. Claremont House, Sunderland.
 Mitford, M. E. Clarence House, Fife.
 Munton, F. E. Private tuition.
 Neale, E. M. Girls' High S., Bishopston, Bristol.
 Nelson, A. d. Trebovir House, South Kensington.
 Palmer, E. The Hall, Montpellier, Cheltenham.
 Phillips, A. M. M. Kenningdine House, Shrewsbury.
 Phillips, M. Milton Mount College, Gravesend.
 Pitt, M. Iona Cottage, Sutton Coldfield.
 Prior, H. 1 Victoria Crescent, Jersey.
 Riley, E. B. Heathcote H., Vanbrugh Park, S.E.
 Sands, F. M. 20 Rawlings Street, Chelsea.
 Schroeter, W. St. Audries, Penarth.
 Stockwell, M. Leicester Road S., Melton Mowbray.
 Talbot, S. Agra House S., Tunbridge Wells.
 Walford, S. Moseley High School for Girls.
 Walker, H. M. 16 Victoria Terrace, Blackpool.
 Wellington, E. M. L. Woodbro' School, Liscard.
 Willett, L. M. Eagle House, Streatham Common.
 Williams, K. E. Private tuition.

Beveridge, M. Gravesend Proprietary School.
 Blakey, L. Collegiate School, Louth, Lincs.
 Branwhite, E. M. Girls' High S., Bury St. Edmunds.
 Classey, V. Polytechnic Girls' School, W.
 Cocks, E. J. Caerleon House, Aberystwith.
 Cummin, N. d. Hamilton Coll., Strood, Rochester.
 Davis, E. M. Sidcot School, Weston-super-Mare.
 Durrant, J. L. Llandaff House School, Norwich.
 Evans, G. E. Duncan House, Clifton.
 French, A. T. High School, Newton Abbot.
 Harvey, N. Royal Masonic Inst., Battersea.
 Hawking, F. Longley House School, Easingwold.
 Helliar, A. E. Montrose House, Margate.
 Hickman, L. The Lymes, Sudbury, Suffolk.
 Lewis, N. C. 26 Ashley Road, Hornsey Rise.
 Miles, E. Gunberrie House School, Edgware.
 Morrison, E. M. Kidderminster High School.

Nunn, M. L. Private tuition.
 Paige, E. M. St. Bernard's, Newton Abbot.
 Parker, A. M. N. Hackney High S., Stamford Hill.
 Perrin, F. B. Harley House School, Hereford.
 Phair, E. S. Camden School for Girls, N.W.
 Richardson, E. M. Higher Grade School, Huntingdon.
 Saul, M. E. Holly Terr. S., Stonycroft, L'pool.
 Simpson, D. Richmond & Twickenham High S.
 Smith, A. H. Royal Masonic Inst., Battersea.
 Thackray, A. Park S., Hr. Broughton, Manchester.
 Vaughan, H. M. 18 Charnwood Street, Derby.

Ace, F. A. Royal Masonic Inst., Battersea.
 Adams, A. M. Vale View House School, Devizes.
 Carter, M. Royal Masonic Inst., Battersea.
 Chambers, M. F. Camden House, Biggleswade.
 Collis, K. E. Girls' High S., Bury St. Edmunds.
 Ellis, L. Chestnut House, Lincoln.
 Evans, L. A. Grosvenor House, Bridport.
 Evans, S. A. Sunnyside Hall, Macclesfield.
 Fenton, C. A. The Grange, Marple.
 Fitzgerald, H. Camden School for Girls, N. W.
 Foster, F. Brimcliffe, Nottingham.
 Glenny, S. G. Royal Masonic Inst., Battersea.
 Hatch, M. A. Milton School, Northampton.
 Hobbs, R. M. Vernon House, Bayswater.
 Holder, F. E. Tewkesbury High School for Girls.
 Hulbert, M. Richmond and Twickenham High S.
 Innes, E. "Y Garn," Bromley, Kent.
 Jacobson, E. Holloway College, N.
 Kirkby, K. South Grove, Rotherham.
 Lowe, E. M. Moseley High School for Girls.
 Marks, F. E. Private tuition.
 Paige, E. St. Bernard's, Newton Abbot.
 Palethorpe, M. 29 Main Ridge, Boston.
 Sexton, A. M. High School, Redhill.
 Townshend, N. S. Kent College, Folkestone.
 Wheeler, E. G. 66 Chelsiam Road, Clapham.

Armitage, M. H. Parish Ch. Mid. Class Girls' S., Leeds.
 Bennett, B. F. Merchiston, Eastbourne.
 Bennett, N. M. Handsworth Ladies' College.
 Duthy, E. H. East Southsea Collegiate School.
 Eady, A. M. d. Caldecote Towers, Bushey Heath.
 Elliott, G. M. Private tuition.
 Forbes, C. H. Claremont House S., N. Kensington.
 Garner, F. M. Bank House, Over.
 Gibbs, M. E. Dashwood House School, Banbury.
 Haine, A. J. Old Bank House Coll. S., Castle Cary.
 Hammond, E. M. Whitelands Coll. Upper S., Chelsea.
 Hebditch, W. M. Girls' High School, Bridgwater.
 Hill, M. J. Queen's Park College, W.
 Holgreaves, M. Arundel House, Scarborough.
 Jackson, W. S. Burlington Middle Class Girls' S., W.
 Kitching, L. F. 18 Charnwood Street, Derby.
 Locke, F. Milford House S., Newport, Mon.
 Lund, B. D. Moorlands Girls' S., Bournemouth.
 Melroy, M. High School, Queen's Coll., B'ham.
 Meech, L. A. Private tuition.
 Mentasti, A. Eton Hall, Beckenham.
 Orr, E. B. Essex House S., Woodford Green.
 Reed, G. E. Euston Collegiate School, N.W.
 Smith, E. Milton Mount College, Gravesend.
 Smith, H. G. The Crescent School, Norwich.
 Smith, J. B. The Woodroghs, Moseley.
 Stubbs, A. E. P. Brunswick House School, Carlisle.
 Taylor, E. M. St. Augustine's, Margate.
 Turner, M. W. Royal Masonic Inst., Battersea.
 Walford, M. Dashwood House School, Banbury.
 Walter, K. E. Belle Vue, Redhill.
 Williams, E. W. Friends' School, Saffron Walden.
 Williams, N. Friends' School, Saffron Walden.
 Wilson, E. Milton Mount College, Gravesend.

Bedington, E. M. Belmont Ho., Langley, Maidstone.
 Berner, E. K. Northfield House, Winchester.
 Berry, O. Milton Mount College, Gravesend.
 Brierly, H. Park House School, Bowdon.
 Brown, J. R. Camden School for Girls, N.W.
 Browne, M. F. Lawn Coll., Shepherd's Bush Green.
 Buckham, L. St. Anne's High School for Girls.
 Clint, E. Elgin College, Chesham Villas, W.
 Duck, M. L. Mayfield, Marlborough.
 Enderby, A. Collegiate School, Louth, Lincs.
 Follows, A. B. Sidcot School, Weston-super-Mare.
 Goodall, M. Castle Hall School, Northampton.
 Goodchild, E. G. Royal Masonic Inst., Battersea.
 Griffiths, K. Lansdowne House, St. Columb.
 Harding, G. C. d. The Modern School, Torquay.
 Harvey, V. M. Arlington House S., Newport, Mon.
 Isaacs, E. M. Kidderminster High School.
 Jones, J. E. Claremont, Margate.
 Kirkman, A. P. d. Mounts High School, Hastings.
 Mason, E. M. 71 Park Street, Hull.
 Meredith, D. G. Private tuition.
 Norton, M. A. "Highfield," Highbury Place, N.
 Pearson, P. South Croydon School for Girls.
 Pringle, H. W. Battlehurst, Hexham-on-Tyne.
 Schott, C. E. A. Whitelands Coll. Upper S., Chelsea.
 Scott, L. J. Private tuition.
 Sewell, L. J. Avondale, Croxteth Rd., Liverpool.
 Sharpe, E. F. Warbreck Coll., Aintree, Liverpool.
 Short, R. H. Girls' High School, Bournemouth.
 Spalding, S. Royal Masonic Inst., Battersea.
 Stone, D. B. Private tuition.
 Syer, M. E. "Highfield," Highbury Place, N.
 Ward, A. M. 18 Railway Street, Beverley.
 Webster, L. Longley House School, Easingwold.
 Westoby, E. M. St. Helier's College, Shifnal.
 Williamson, E. M. M. Glan Dyfi House, Wisbech.
 Woodhouse, G. Caerleon House, Aberystwith.

Ashton, J. B. Wynand House, Bowes Park.
 Bishop, E. Haberdashers' School, Hoxton.
 Cook, E. J. Harley House School, Hereford.

GIRLS, THIRD CLASS—Continued.

Collinson, E. M. d. Queen's Park College, W.
Cross, E. Beaufort Ho. S., Stratford-on-Avon.
Grimmett, M. E. Higher Grade Girls' S., Norwich.
Halket, A. C. The George Green Schools, Poplar.
Hammond, A. Sherwood House, Nottingham.
Harker-Fox, E. Ellerslie House School, Hull.
Helden, M. E. Girls' Grammar School, Ripon.
Jones, S. E. 3 Abbey Terrace, Llandilo.
Joyce, N. E. Rokeby Lodge School, Lee, S. E.
Kirtan, M. St. George's House, Doncaster.
Levick, M. A. Eton House, Sheffield.
Lewis, M. Down End, Clifton.
Lucas, M. Victoria College, Congleton.
Matthews, F. M. Camden School for Girls, N.W.
Newman, E. L. Cambridge Ho. S., Battersea Park.
Ryland, S. St. George's House, Doncaster.
Spain, L. C. Belmont, Dover.
Stewart, I. M. Girls' High School, Bournemouth.
Strachan, J. W. Bryaustone House, Anerley.
Taverner, A. Royal Masonic Inst., Battersea.
Wallis, G. K. Sultan House, Margate.
Watts, W. Milton Mount College, Gravesend.

Adams, M. E. N. Hackney High S., Stamford Hill.
Appleton, E. S. Clarendon Collegiate S., Clifton.
Bayspoole, A. College House, Hungerford.
Birbeck, M. G. Mornington Middle Cl. S., Torquay.
Birfield, G. E. "The Close," Steyning, Sussex.
Bye, L. J. St. Helier's Coll., Wellingborough.
Dunlop, M. M. Camden School for Girls, N.W.
Elliott, L. Milton Mount College, Gravesend.
Fay, H. Camden School for Girls, N.W.
Furse, M. Seaton House S., Mitley, Plymouth.
Green, Florence Athole House, Downham Market.
Hawton, F. M. Grey Coat Hospital, Westminster.
Henwood, E. M. d. N. Hackney High S., Stamford Hill.
Holland, N. Bank House, Over.
Karr, E. C. Scarisbrick House S., Southport.
Longrigg, E. Devonshire House, Carlisle.
Masonpary, E. A. Avondale, Croxteth Rd., Liverpool.
McChloeh, M. Alexandra College, Shirley.
Munin, C. Royal Masonic Inst., Battersea.
Naish, E. M. London Road High S., Salisbury.
Remison, E. M. Enlford Field House, York.
Rogerson, E. D. Kent College, Folkestone.
Roebuck, E. Haberdashers' School, Hoxton.
Rose, G. V. "Highfield," Highbury Place, N.
Salway, M. York House School, Newbury.
Smith, H. M. High School, Newtown, Mont.
Stimpson, L. S. Howard College, Bedford.
Tittle, F. J. Dresden Villa, Redland, Bristol.
Webb, E. E. Colston's Girls' Day S., Bristol.
Whateley, S. Beaufort Ho. S., Stratford-on-Avon.
Whiteside, E. D. Buckingham Cres. S., Manchester.

Andrews, R. G. Royal Masonic Inst., Battersea.
Bartlett, E. M. Darlington High School for Girls.
Bell, A. G. Somerville Ho., Newcastle-on-Tyne.
Brown, E. F. E. The Chestnuts, Willesden.
Brown, L. Haberdashers' School, Hoxton.
Chisholm, A. A. Bedford College, Liverpool.
Clephan, C. W. The High School, Stockton-on-Tees.
Cox, M. Strand Green & Hornsey High S.
Cristall, M. E. Brandon House S., South Croydon.
Greenlay, J. Arundel House, Scarborough.
Higgs, A. E. Eastholme, Farnham.
Hulton, A. M. Private tuition.
Ireson, D. Royal Masonic Inst., Battersea.
Lewley, J. B. d. The Wolverhampton High School.
Lill, E. M. Glan Dyli House, Wisbech.
Lokey, E. G. Stanley House School, Durham.
Matthews, J. 3 Abbey Terrace, Llandilo.
Moffet, M. M. Airethwaite School, Kendal.
Parr, M. M. Everard House S., King's Lynn.
Paynter, M. 2 Oxford Villas, Cheltenham.
Pyrke, E. E. F. "Y. Garn," Bromley, Kent.
Radley, E. L. The Manor House, Uttoxeter.
Ross, H. Somerville School, Nottingham.
Sangster, L. C. Private tuition.
Stevens, E. M. Croft House School, Wallingford.
Tassell, M. S. Etchingham Park S., Finchley.
Taverner, M. I. The Crossley & Porter S., Halifax.
Wernham, M. M. Kendrick Girls' School, Reading.
Williamson, M. The Cowley Schools, St. Helens.
Wintle, K. Alexandra College, Shirley.

Allen, B. Haberdashers' School, Hoxton.
Archer, E. W. Moseley High School for Girls.
Boyd, E. C. St. Katharine's, Eastbourne.
Bray, E. d. Hartell College, Birkdale.
Campbell, H. L. Dulwich High School, S.E.
Chapman, D. M. St. John's Middle S., Kennington.
Chapman, F. Private tuition.
Doubell, M. G. Stoke Newington High School, N.
Down, F. B. Old Bank House Coll. S., Castle Cary.
Ewens, A. J. Caerleon House, Aberystwith.
Grace, W. Sidcot School, Weston-super-Mare.
Grieve, J. K. Haddo & Westwood Coll. S., Scarbro'.
Hawksley, M. Threave School, Hampstead.
Hunt, I. G. Kensington House, Birkenhead.
Inwood, A. Belmont House, Alton.
Lear, E. A. Southernhay School, Exeter.
Mason, M. R. Terrace School, Chesterfield.
Medforth, E. The Manor House School, Driffield.
Meikle, E. L. Norwood House, Liverpool.
Messiter, A. M. Moseley High School for Girls.
Morris, M. E. Severn Bank School, Shrewsbury.
Needham, M. The Grange, Marple.
Oliver, M. A. B. Camden School for Girls, N.W.
Roberts, E. M. Norwood House, Liverpool.
Searle, M. G. L. Camden School for Girls, N.W.
Simpson, G. Storrs Hall, Ingletan.
Turton, A. C. Royal Masonic Inst., Battersea.
Walter, E. E. Belle Vue, Redhill.

Walton, F.
Warner, F. M.
Westlake, C. A.

Adams, A. C.
Beck, B. B.
Bell, E. M.
Benn, F. M.
Berry, G. M.
Coxwell, E.
Coy, I. L.
Craister, M.
Druff, R.
Gauntlett, K.
Gee, L. E.
Haes, A. J. K.
Halliwell, F.
Harris, W. J.
Henderson, E. M.
Hood, J.
Horwood, E.
Ingram, J. W.
Jurd, L. L.
Knight, J.
Light, E. M.
Love, M. E. W.
Luffman, B. M.
Morgan, E. M.
Richardson, F.
Silver, E. E.
Stone, G.
Stratford, N. C.
Strachan, M. R.
Tankard, L. C.
Tonkin, E. M.
Vergette, M. G.
Vowles, A. F.

Banks, V.
Barringer, E. M.
Bedwell, C. G.
Bird, E. E.
Brown, M. A.
Brown, M. G.
Burnard, H. L.
Cullum, W.
Dale, J. M.
Dry, E. C.
Foster, L. D.
Freeman, H. M.
Frere, C.
Glover, M.
Goddard, E. M.
Hansen, G. D.
Harris, E.
Harrison, S. G.
Henderson-Roe, M. L.
Holder, C.
Hollis, L. M.
Jones, G.
Keen, E.
Knight, E.
Loving, E. S.
Page, E. F.
Paine, F. C.
Porkess, A. E.
Reeve, A. M.
Sawday, E. M.
Scott, M.
Shaw, K.
Shenton, C.
Spurgeon, C.
Stokes, E. M.
Sturt, E.
Van Raalte, H.
Watts, E.
West, E. A.
White, E. M.
Woodbridge, E. E.

Archer, G. A. H.
Bedford, A. M.
Brotelrie, S. M.
Brownell, F.
Cook, A. G.
Cottan, M. A.
Davies, G.
Eaves, F. P.
Elliff, N. M.
Ennals, H. M.
Good, F.
Guernsey, H.
Hopkins, F. H.
Johnson, L. A.
Knighton, K. A.
Lawson, J.
Lloyd, M. E.
Loach, G. S.
Marshall, M. F.
Mellor, E. B.
Raven, H. M.
Rees, F.
Roel, M. C.
Symington, B. W.
Talbot, E. M.
Tucker, D. M.
Vigor, A. M.
Wallace, D. F.
Walton, K.
Wathen, E. C.
Willis, S.
Woodhouse, F.

Black, M. K.
Campbell, F. C.

Westgate House, Peterborough.
People's Coll. Girls' S., Nottingham.
Aubrey Park College, N.

Hanover House, Ryde.
Girls' Middle School, Tiverton.
Sandyford Acad., Newcastle-on-T.
St. Katharine's, Eastbourne.
Kent College, Folkestone.
d. Royal Masonic Inst., Battersea.
Gravesend Proprietary School.
St. Katharine's S., Kennington Pk.
Queen's Park College, W.
Edgeworth House S., Finsbury Pk.
The Crossley & Porter S., Halifax.
Mecklenburg House, Putney Hill.
The High School, Dewsbury.
Private tuition.
Private tuition.
Gravelly Hill High S., Birmingham.
The Mount School, Banbury.
Stanmore House, Weston-s-Mare.
9 Kingsgate Street, Winchester.
Gloucester House Coll. S., Tetbury.
Etchingham Pk. School, Finchley.
Duke Street Girls' School, Bath.
Hazelhurst, Wimbledon.
26 Ashley Road, Hornsey Rise.
Royal Masonic Inst., Battersea.
The Lines, Sudbury, Suffolk.
Coloma House, Croydon.
Buena Vista, Weston-super-Mare.
Mayo School, Gray's Inn Rd., W.C.
South View, Ironbridge.
St. Winifred's, Clifton.
Glan Dyli House, Wisbech.
Rossholme, Weston-super-Mare.

Handsworth Ladies' College.
Sidcot School, Weston-super-Mare.
Sutherland House S., Clapham.
The Woodrongs, Moseley.
The High S., Stockton-on-Tees.
Delbury Ho. S., Clippenham Rd., W.
Haddo & Westwood Coll. S., Scarbro'.
Arlington House S., Newport, Mon.
Cambridge House S., Liverpool.
Warehousesmen & Clerks' S., Purley.
Girls' Grammar School, Ripon.
Higher Grade Girls' S., Norwich.
St. Hildred's, Southsea.
Buena Vista, Weston-super-Mare.
Cambridge House, Guildford.
Ellerker College, Richmond Hill.
Melrose College, St. Leonards.
Battlehurst, Hexham-on-Tyne.
Souvigny, Bournemouth.
Ellerslie House School, Hull.
Moorlands Girls' S., Bournemouth.
Bedford College, Liverpool.
Old Bank House Coll. S., Castle Cary.
Milton Mount College, Gravesend.
Fairbank, Preston, Lancashire.
Grosvenor House S., Forest Hill.
Park S., H. Broughton, Manchester.
Private tuition.
Collegiate School, Louth, Lines.
Stonegate College, Leicester.
Higher Grade Girls' S., Norwich.
The Grange, Marple.
The Manor House, Uttoxeter.
d. Normanhurst Coll., W. Bournemouth.
Sidcot School, Weston-super-Mare.
Cambridge House, Guildford.
Camden School for Girls, N.W.
Longford Girls' School, Bristol.
Ramsill House Coll., Petersfield.
St. Winifred's, Clifton.
Royal Masonic Inst., Battersea.

Ashleigh House, Tutbury.
"Eastville," Moor Oaks, Sheffield.
26 Ashley Road, Hornsey Rise.
Somerville House S., Northampton.
Wakefield House School, Norwich.
2 South Terrace, Dorchester.
Boughrood House College, Brecon.
Beaufort Ho. S., Stratford-on-Avon.
Private tuition.
Ivy House, Bures, Suffolk.
Camden School for Girls, N.W.
Forest Gate Collegiate School.
Sterndale School, Wallington.
Private tuition.
Lynton House School, Margate.
Convent S., Chestow Villas, W.
Girton House, Wolverhampton.
People's Coll. Girls' S., Nottingham.
Friends' School, Saffron Walden.
Colston's Girls' Day School, Bristol.
Arundel House, Scarborough.
St. Andrie's, Penarth.
Hereford Ladies' College.
Caldecote Towers, Bushey Heath.
The Coborn School, Bow Road, E.
Church House School, Beckley.
Camden School for Girls, N.W.
Airethwaite School, Kendal.
Milton Mount College, Gravesend.
Upland College, Stroud.
Devonshire House, Carlisle.
Whitlands Coll. Upper S., Chelsea.

The Lines, Ealing.
Royal Masonic Inst., Battersea.

Clayton, F.
Cordwint, M. S.
Cureton, G. M.
Davidson, W. A.
Davis, J. R.
Denson, L.
Dover, E.
Eddels, R. B.
Egerton, M.
Gibbs, E. M.
Gray, M. A.
Hoeken, E.
Holdsworth, E. M.
Hunfry, J.
Jones, E. M. E.
Judd, L.
Knowles, E.
Leslie, M. E.
Ma'Kay, E.
Moore, A. N.
Motton, W. M.
Page, B. E. M.
Palmer, F. G.
Robertson, E. M.
Rodger, M. I. J.
Slade, G. T.
Smith, A.
Stevens, C. M.
Stretton, B.
Taylor, F. E.
Webster, K. E.
White, M. H.
Williams, E. M.
Wood, M. F.

Arnold, K.
Brake, G.
Brunt, B.
Cockshut, C.
Cox, C.
Dimock, F. A.
Hartley, M.
Hill, M. E.
Inch, C.
Jackson, E.
Jackson, L.
Jarvis, B.
Jolly, F. H.
King, L. E.
Legge, C.
Morton, M. E.
Munro, E. M.
Nixon, L.
Oddy, A. M. M.
Partington, F. E.
Pearce, O. B.
Pratt, H. M.
Probert, C.
Quartermaine, F. E.
Seacombe, B.
Selbie, C. M.
Shepherd, E.
Smith, C. A.
Tabbener, E.
Tinsley, H. A.
Wallis, E.
Warburton, A. R.
Watkins, D. M.
Wilson, A. G.

Allen, E. A.
Ansparth, A.
Barter, F.
Bohli, M. A.
Brown, E. R.
Brown, M.
Brown, M. P.
Burkinshaw, E. P.
Burnside, J.
Callaghan, B.
Challen, L.
Clarke, G. L.
Cockell, F. M.
Cowen, A. M.
Dale, E. A.
Davies, M.
Flood, E. M.
Fordoff, M.
Forsyth, M. L.
Gardner, A.
Gold, E. C.
Golden, C.
Greenwood, E. M.
Grubb, G.
Hoe, A. L.
Hollis, M. H.
Honeyball, E.
Hopson, E. C.
Jago, E. M.
Jeavons, A. S.
Jessop, L. E.
Knapp, D. F. W.
Lee, M.
Malcolm, J. O.
Marshall, D.
Maskell, E. F.
McCubbin, A. T.
Merriek, B. M.
Parvin, F. E.
Pepys, A. T.
Price, E. C. B.
Richardson, A. L.
Richardson, I.
Savage, L.

Malvern House School, Birkdale.
Hill View, Wellington, Somerset.
Warehousesmen & Clerks' S., Purley.
High School, Walton-on-Thames.
The High School, Reading.
Northgate House School, March.
Salisbury Coll., Stoneycroft, L'pool.
The Laurels, Canterbury.
Polytechnic Girls' School, W.
The Hall, Montpellier, Cheltenham.
Moseley High School for Girls.
Seaton House S., Mitley, Plymouth.
Kidderminster High School.
Abbey House School, Selby.
Melrose College, St. Leonards.
Ch. of England Public S., Gravesend.
Ellerslie House School, Hull.
Oseney Coll., Oseney Crescent, N.W.
Brean Down House S., Burnham.
Gravesend Proprietary School.
Camborne House, Torquay.
2 Oxford Villas, Cheltenham.
London Road High S., Salisbury.
Private tuition.
Cae Llenor School, Carnarvon.
Middle Class School, Farnham.
Borough Collegiate S., Rotherham.
Hartington House S., Beckenham.
Elwy Hall School, Rhyl.
Connaught House S., Attleborough.
College House, Coventry.
26 Ashley Road, Hornsey Rise.
Private tuition.
Pemberton College, Up. Holloway.

Kendrick Girls' School, Reading.
Hawthorn House, Stoke Newington.
Chestnut House, Lincoln.
"Highfield," Highbury Place, N.
Twyford Ho., K. Henry's Rd., N.W.
Maida Vale College, W.
The Crossley & Porter S., Halifax.
People's Coll. Girls' S., Nottingham.
West Cornwall College, Penzance.
Camden House, Leighton Buzzard.
Newnham House School, Loughton.
Redbrooke College, Canborne.
Wakefield House School, Norwich.
Gravesend Proprietary School.
Milton Mount College, Gravesend.
Devonshire House, Carlisle.
Colston's Girls' Day School, Bristol.
Abbeyfield Mount, Sheffield.
Caldecote Towers, Bushey Heath.
Hr. Grade S., Atherton, Manchester.
Longford Girls' School, Bristol.
121 Evering Road, Stoke Newington.
Beech Lawn, Leamington.
Alwyne College, Canonbury.
7 Well's Walk, Ilkley.
Private tuition.
Belle Vue, Holbeach.
Malvern House, Reading.
Edgbaston Academy.
Belle Vue, Holbeach.
Gresham College, Brixton.
Chestnut House, Lincoln.
Prospect House, St. Neots.
The Cowley Schools, St. Helens.

Ashley High School, Long Sutton.
Margate Ladies' College.
Manadon Villa School, Plymouth.
Royal Masonic Institute, Battersea.
Bradley Lodge Coll. S., Newport, I.W.
Sidcot School, Weston-super-Mare.
Wilton House School, Reading.
Somerville House S., Northampton.
Darlington High School for Girls.
Coloma House, Croydon.
Edinburgh House, Midhurst.
Parish Ch. Mid. Class Girls' S., Leeds.
Private tuition.
"Highfield," Highbury Place, N.
Woodland House School, Thirsk.
Milton Mount College, Gravesend.
Bedford College, Liverpool.
Storrs Hall, Ingletan.
Wardsworth High School for Girls.
Westbourne House S., Chiswick.
Malvern House, Reading.
Westgate House, Peterborough.
Girls' Grammar School, Bingley.
Friends' School, Saffron Walden.
Whitlands Coll. Upper S., Chelsea.
Brazenose School, Stamford.
Grey Coat Hospital, Westminster.
Dorechester House, Clacton-on-Sea.
Dorchester House, Clacton-on-Sea.
Lansdowne House S., Llandudno.
Rockville S., Chorlton-cum-Hardy.
The Athenaeum, Maidstone.
The Mount, Darlington.
Private tuition.
Bridge House, East Retford.
Camden School for Girls, N.W.
26 Trinity Road, Bootle, Liverpool.
Amerslie, Clifton.
Lynton House School, Margate.
Private tuition.
Ladies' College, Wellington, Salop.
Highfield, Highbury Place, N.
Royal Masonic Inst., Battersea.
People's Coll. Girls' S., Nottingham.

GIRLS, THIRD CLASS.—Continued.

- Shillabeer, I. M. Gunnerside School, Plymouth.
 Smith, C. 3 Montagu Terr., Higher Broughton.
 Thomson, H. R. Walthamstow Hall, Sevenoaks.
 Toze, S. W. 2 Gordon Terrace, Exmouth.
 Wolters, K. M. St. John's College, Brixton.
 Zealley, F. S. A. Buckland House School, Axminster.
- Allen, G. Lansdowne House S., Llandudno.
 Barrett, G. S. Laurel Rd. S., Fairfield, Liverpool.
 Bate, A. D. Walthamstow Hall, Sevenoaks.
 Belshan, E. M. d. Eversley, Bexhill-on-Sea.
 Bishop, G. V. College House School, Peckham.
 Boardman, M. The Convent, Erith.
 Booth, C. C. Grosvenor House, Bridport.
 Botterill, M. The Manor House S., Driffield.
 Bowen-Jones, G. Boughrold House College, Brecon.
 Brady, E. B. Springfield House, Stockport.
 Busbridge, L. B. Woolwich & Plumstead High School.
 Case, G. M. Heathcote Ho., Vanbrugh Pk., S.E.
 Clementi-Smith, M. E. St. Katharine's, Eastbourne.
 Cotching, A. E. R. Kidderminster High School.
 Culverwell, M. E. Girls' High School, Bridgwater.
 Dalton, M. H. N. West Hill, Eastbourne.
 Davidson, F. Clergy Daughters' School, Bristol.
 Earl, E. G. 121 Evering Rd., Stoke Newington.
 Fairbank, E. Polytechnic Girls' School, W.
 Gent, M. M. Russell House School, Grimsby.
 Hancock, M. M. Mecklenburg House, Putney Hill.
 Harper, E. M. Park S., Hr. Broughton, Manchester.
 Hasler, G. D. The Crossley & Porter S., Halifax.
 Howard, M. Riverstead, Waterloo, Liverpool.
 Hoyle, E. M. Girls' Grammar School, Halifax.
 Johns, M. The Crossley & Porter S., Halifax.
 Linsdell, L. Forest Gate Collegiate School.
 Maile, E. M. Higher Grade School, Huntingdon.
 Melhuish, E. Royal Masonic Inst., Battersea.
 Oliver, M. H. Hendon College, N.W.
 Openshaw, E. N. Springfield House, Stockport.
 Owen, M. E. Bryntysilio, Carnarvon.
 Peach, G. de C. Grosvenor House, Bridport.
 Pegg, F. O. Leicester High School for Girls.
 Pettit, K. 9 Well Street, Bury St. Edmunds.
 Phenip, G. Royal Masonic Inst., Battersea.
 Pratt, E. Convent School, Southampton.
 Read, E. J. I. Bromley Park College, Kent.
 Sanders, L. M. Burlington Mid. Class Girls' S., W.
 Scotson, M. Lulworth Lodge, Birkdale.
 Sharp, A. Girls' Grammar School, Keighley.
 Skemp, H. L. Eton House, Cheltenham.
 Smith, M. A. Gloucester House Coll. S., Tetbury.
 Snowdon-Smith, E. St. Mary's Hall, Brighton.
 Stone, E. C. Woolwich and Plumstead High S.
 Thring, M. B. Inglewood College, Birmingham.
 Tofts, A. Haberdashers' School, Hoxton.
 Toder, E. M. The College, Boston Spa.
 Waterman, K. Fairfield House, Watford.
 Watkins, F. Braemar College, Stroud Green.
 Whitehead, G. M. Glan Dyfi House, Wisbech.
- Andrews, L. H. East Southsea Collegiate School.
 Becket, A. The Cowley Schools, St. Helens.
 Benge, E. H. East Devon County S., Halberton.
 Berry, A. I. Ebor, Parkstone, Dorset.
 Bowerman, C. E. East Devon County S., Halberton.
 Brooks, I. Terrace School, Chesterfield.
 Bull, M. B. 39 Finsbury Road, West Brighton.
 Butler, A. E. Teddesley House, Walsall.
 Cooper, E. Oxford Lodge, Wolverhampton.
 Cracknell, A. W. Surrey House School, Norwich.
 Danks, E. A. Harborne Ladies' College, B'ham.
 Darnill, E. H. Westgate House, Peterborough.
 Davis, E. Colston's Girls' Day S., Bristol.
 Dent, F. E. M. Wakefield House School, Norwich.
 Dodgson, E. M. Private tuition.
 Evans, R. B. St. Mary's Villa, Newtown, Mont.
 Goodwin, K. E. Shrewsbury Collegiate School.
 Grist, E. G. Vale View House School, Devizes.
 Hamay, C. G. M. P. G. Girls' High School, Bournemouth.
 Harding, M. A. Carrick House, Brampton.
 Hardy, K. Sidcot School, Weston-super-Mare.
 Haylock, J. M. D. Manor House College, Hastings.
 Heath, M. A. The Priory S., Woodford Green.
 Hewlett, H. M. Beechcroft College, Richmond Hill.
 Holt, F. E. The Crossley & Porter S., Halifax.
 Hopwood, A. Walton High School, Liverpool.
 Jennings, K. E. West Cornwall College, Penzance.
 Lack, A. N. Brazenose School, Stamford.
 Lander, M. C. Colston's Girls' Day S., Bristol.
 Law, C. A. 121 Evering Rd., Stoke Newington.
 Mace, E. M. Lonsdale House School, Norwich.
 Margetson, D. L. St. Margaret's, Westgate-on-Sea.
 Merton, O. A. St. John's Middle S., Kennington.
 Pagen, E. B. 14 Foxhouses, Whitehaven.
 Palmer, H. M. Camden School for Girls, N.W.
 Pengelly, E. C. Steyne High School, Worthing.
 Preece, L. E. Ladies' School, Upton-on-Severn.
 Roffey, I. M. Private tuition.
 Shuter, R. Belle Vue, Redhill.
 Spencer, D. Buckingham Crescent S., M'chester.
 Stevenson, E. Mecklenburg House, Putney Hill.
 Turner, M. B. Brean Down House S., Burnham.
 Westcott, N. Seaton House S., Mutley, Plymouth.
 Wilson, A. E. O. 33 Sion Hill, Bath.
 Wood, B. M. Prospect House S., Stechford.
- Bowsher, K. L. Collegiate School, Devizes.
 Brown, E. K. Kendrick Girls' School, Reading.
 Bunting, E. Blytha Villa School, Didsbury.
 Carnell, A. M. St. John's College, Brixton.
 Carroll, F. E. Crescent House College, Bedford.
 Carter, E. The Hawthorns, Ealing Common.
 Coles, A. B. M. 27 Brook Street, Gloucester.
 Corkill, R. Cleveland, Douglas, Isle of Man.
- Cowdroy, A. A. d. Kendrick House, Brighton.
 Edwards, I. Cronch Hill High S. for Girls.
 Evans, E. M. Colston's Girls' Day S., Bristol.
 Evans, G. Belle Vue, Swansea.
 Evans, R. M. High School, New Brighton.
 Farnecombe, L. Edinburgh House, Midhurst.
 Fellows, N. Greenhill House, Stourbridge.
 Firth, M. Malvern House School, Birkdale.
 Gent, S. E. Hatter Street S., Bury St. Edmunds.
 Harris, G. L. D. Royal Masonic Inst., Battersea.
 Hudson, L. Huntcliffe House, Harrogate.
 Hull, D. 28 Vernon Terrace, Brighton.
 Hunt, J. H. St. Cloud, Southsea.
 Johnson, L. Cronch Hill High School for Girls.
 Johnson, M. Elwy Hall School, Rhyl.
 Kruse, H. M. E. Carden School, Peckham Rye.
 Lindsey, L. Bridge House, East Retford.
 Lovegrove, E. M. Lawn Coll., Shepherd's Bush Green.
 Moore, E. J. 11 Parrock Street, Gravesend.
 Morley, E. N. Sherwood House, Nottingham.
 Owston, E. St. Katharine's S., Kennington Pk.
 Price, L. T. "Eversley," Folkestone.
 Pyke, F. E. A. "Y Garn," Bromley, Kent.
 Smith, J. B. Norfolk House, Gosport.
 Snodgrass, M. E. Everard House S., King's Lynn.
 Standfield, L. S. Montague House S., Weymouth.
 Starling, E. A. Wakefield House School, Norwich.
 Tattam, D. Camden House, Leighton Buzzard.
 Tozer, B. L. Queen's Park College, W.
 Vidal, E. Trebovir House, South Kensington.
 Walker, M. L. St. Augustine's, Margate.
 Wilkins, M. A. Camden School for Girls, N.W.
 Williams, F. Grey Coat Hospital, Westminster.
 Wright, B. W. St. John's College, Brixton.
- Anderson, M. A. Y. Grosvenor House S., Forest Hill.
 Angus, I. D. Claremont House, Sunderland.
 Batrow, E. J. Walthamstow Hall, Sevenoaks.
 Bell, J. The Hill House School, Warwick.
 Blyton, I. M. 71 Lichfield Grove, Finchley.
 Bowater, G. A. The Wolverhampton High School.
 Davis, S. M. St. Ursula's Convent, Oxford.
 Dix, E. L. Chatsley House, Syston, Leicester.
 Edwards, A. Harley House School, Hereford.
 Foweraker, E. Colston's Girls' Day School, Bristol.
 Godfrey, D. H. St. John's Middle S., Kennington.
 Green, E. M. Queenswood, Clapham Park.
 Hookham, M. C. The Woodroughs, Moseley.
 Kerr, M. Ladies' College, Savile Pk., Halifax.
 King, M. Storr's Hall, Ingleton.
 Kirby, S. E. Highbridge House, Wappingham.
 Lawley, E. E. Lansdowne House S., Llandudno.
 Leake, C. M. Mecklenburg House, Putney Hill.
 Lidstone, H. Grey Coat Hospital, Westminster.
 Lock, M. K. High School, Blandford.
 Longdon, M. 174 Church St., Stoke Newington.
 Lunn, M. E. Alexandra College, Shirley.
 Martin, A. Clarence House, Filey.
 Miles, H. L. V. Private tuition.
 Miller, E. The Grange, Marple.
 Morley, M. St. George's House, Doncaster.
 Page, E. M. Rother House School, Lewisham.
 Patterson, H. W. School for Girls, Whitley.
 Pearce, M. Longford Girls' School, Bristol.
 Pearson, A. J. The George Green Schools, Poplar.
 Peat, A. Parish Ch. Mid. Class Girls' S., Leeds.
 Pechey, E. M. Connaught House S., Attleboro'.
 Playne, E. M. Private tuition.
 Purkis, N. Greenhill House, Stourbridge.
 Riddell, J. The Wolverhampton High School.
 Samuel, E. Private tuition.
 Simpson, H. M. Burleigh House, Ipswich.
 Slade, E. M. Higher Grade Girls' S., Norwich.
 Suggitt, G. Longley House S., Easingwold.
 Sullock, M. G. Denmark College, Wimbledon.
 Whiteman, E. H. Kemmendine House, Shrewsbury.
- Bell, H. C. Claughton College, Birkenhead.
 Bergin, R. Girls' High School, Bournemouth.
 Brewer, M. H. Grosvenor House, Hornsea.
 Brightwell, K. Braemar College, Stroud Green.
 Burdett, J. St. George's House, Doncaster.
 Burnett, M. C. Howard College, Bedford.
 Carpenter, G. Grosvenor House, Bridport.
 Clay, M. A. Claremont House, Stockport.
 Coleman, M. E. 79 Stockwell Park Road, S.W.
 Divane, M. A. Convent S., Queen St., Scarborough.
 Doherty, I. R. Norwood House, Liverpool.
 Dudley, E. L. Howard College, Bedford.
 Finton, E. Hill House S., Downham Market.
 Fooks, K. M. Westgate House, Peterborough.
 Francis, M. Higher Grade S., Merthyr Tydfil.
 Ghey, I. H. Ascham House, Southampton.
 Greenslade, M. Southernhay School, Exeter.
 Hallen, D. Hereford Ladies' College.
 Hardy, D. I. B. High S., Queen's College, B'ham.
 Hill, K. B. South Street, Dorchester.
 Jebson, A. E. Boroughbridge Girls' School.
 Johnson, G. M. Private tuition.
 Kingham, M. M. Kendrick Girls' School, Reading.
 Lanagan, B. G. St. John's Middle S., Kennington.
 Mesney, C. Ford House School, Dartmouth.
 Miles, A. G. Private tuition.
 Moody, W. B. Burlington Mid. Class Girls' S., W.
 Mulvey, K. M. Whitelands Coll., Upper S., Chelsea.
 Newton, E. C. 4 Ashwood Villas, Leeds.
 Russell, N. Haberdashers' School, Hoxton.
 Shepherd, M. S. Private tuition.
 Smith, E. Portland St. High S., Manchester.
 Sparks, A. M. St. Mary's Hall, Brighton.
 Storey, E. M. St. Margaret's, Westgate-on-Sea.
 Taylor, L. Grey Coat Hospital, Westminster.
 Tharp, E. Forest Gate Collegiate School.
 Tilly, M. T. Boarding & Day S., Seaton Carew.
- Turnbull, M. Benwell View, Newcastle-on-Tyne.
 Watling, E. J. W. Montague House S., Weymouth.
 Whitmore, H. Teddington Coll., Up. Teddington.
 Willans, A. South View, Ironbridge.
 Wilson, A. G. E. Duppas House, Tulsa Hill.
 Wooldridge, F. Greenhill House, Stourbridge.
 Wright, E. Mecklenburg House, Putney Hill.
- Attwood, C. Greenhill House, Stourbridge.
 Birtill, F. M. Stanmore House, Weston-s.-Mare.
 Blasson, G. Richmond & Twickenham High S.
 Brown, K. M. Grovely College, Bournemouth.
 Bumsted, E. K. Bromley Park College, Kent.
 Chew, F. G. Hartington House S., Beckenham.
 Cook, V. Burleigh House, Ipswich.
 Creyke, H. E. Girls' Grammar School, Ripon.
 Davies, I. D. J. St. Mary's Hall, Brighton.
 Doyle, J. B. Girls' High School, Bournemouth.
 Easter, A. G. Watlington, Downham Market.
 Ferris, H. Haberdashers' School, Hoxton.
 French, B. A. 26 Ashley Road, Hounsey Rise.
 Geary, E. L. St. Margaret's Hr. Grade S., Lee, S.E.
 Goldhill, R. Germania College, Canonbury.
 Goodeshaun, A. Grey Coat Hospital, Westminster.
 Graham, M. F. St. Mary's Hall, Brighton.
 Gravestock, M. L. Castle Hall School, Northampton.
 Guy, A. L. Latimer House School, Southsea.
 Harvey, E. C. 7 St. Paul's Road, Margate.
 Hebblethwaite, W. Aventure High School, York.
 Hill, E. C. Kendrick Girls' School, Reading.
 Hothersall, M. A. C. Collegiate School, Morecambe.
 Innes, A. H. Moravian Ladies' S., Ockbrook.
 Lavrie, M. L. Bexley College, Kent.
 Lee, A. G. Warbreck Coll., Aintree, Liverpool.
 Lloyd-Hughes, M. High School, Newtown, Mont.
 Mabin, B. E. d. The Modern School, Torquay.
 Mack, C. P. "Highfield," Highbury Place, N.
 Moore, M. E. E. Bradley Lodge Coll. S., Newport, I.W.
 Patterson, J. M. High School, Newtown, Mont.
 Patton, M. D. Private tuition.
 Pakeman, E. Highfield College, Chislehurst.
 Peacock, F. I. Pynes House School, Thorverton.
 Prewett, F. S. Eastnor House School, Hereford.
 Richard, M. C. Walthamstow Hall, Sevenoaks.
 Roberts, D. Henley House, Penarth.
 Rose, E. M. Colston's Girls' Day School, Bristol.
 Ross, J. The Manor House School, Driffield.
 Stuart, A. A. Darlington High School for Girls.
 Sturt, E. A. Sunny Bank, Haugh, Bolton.
 Tremayne, G. I. Gresham College, Brixton.
 Unwin, H. Convent of Loreto, Hulme.
 Weinbrecht, G. Wilton House School, Reading.
 Wheeler, W. M. 66 Chelsham Road, Clapham.
 Whitmarsh, E. G. Kendrick Girls' School, Reading.
 Wiggall, E. E. 39 Finsbury Road, West Brighton.
 Wilson, A. Bridge House, East Retford.

THIRD CLASS.—2ND DIVISION.

- Arthur, M. Trebovir House, South Kensington.
 Baker, A. E. The Wolverhampton High School.
 Baker, E. A. Arundell House, Tisbury.
 Birkly, W. A. Liversedge Grammar School.
 Brailey, M. Orford College, Walthamstow.
 Brookes, F. L. Lonsdale House School, Norwich.
 Burford, E. E. Grosvenor House, Bridport.
 Buswell, E. E. The Modern School, Torquay.
 Chapman, M. Parish Ch. Mid. Class Girls' S., Leeds.
 Craddock, E. F. Girls' High School, Bournemouth.
 Davies, E. Greenhill House, Stourbridge.
 Farr, E. Glan Dyfi House, Wisbech.
 Flint, N. K. Belmont House, Derby.
 Flynn, W. The High School, Richmond, S.W.
 Fraser, F. I. Abney Park College, N.
 Gilling, H. Private tuition.
 Gullett, W. A. London Road High S., Salisbury.
 Hart, L. E. Kent College, Folkestone.
 Hayward, F. A. O. Mayall College, Brixton.
 Hickman, M. E. Darlington High School for Girls.
 Houlston, E. H. Old Abbey School, Derby.
 Howett, E. Gunberic House School, Edgware.
 Hurlston, L. Knapton Villa, Weston-s.-Mare.
 Jones, B. E. Private tuition.
 Jones, H. Summerfield Hall, Maesywmmner.
 Last, F. Polytechnic Girls' School, W.
 Marsh, A. M. Huntcliffe House, Harrogate.
 Marquis, M. D. Birkenhead High School, Oxtou.
 Pope, M. F. Oxford House, South Norwood.
 Prewett, E. A. Eastnor House School, Hereford.
 Renouf, A. Vauxhall House School, Jersey.
 Rowland, Z. M. St. Mary's Hall, Brighton.
 Shepherd, D. J. St. Mary's Hall, Brighton.
 Slater, N. E. The George Green Schools, Poplar.
 Smith, M. Darlington High School for Girls.
 Smith, L. M. 15 Greenway Rd., Redland, Bristol.
 Sutherst, A. M. Wincham College, Northwich.
 Toogood, E. A. d. College House, Coventry.
 Tovey, G. Trebovir House, South Kensington.
 Tunncliffe, H. The High School, Dewsbury.
 Williams, K. L. Private tuition.
 Winterbottom, E. J. The Cowley Schools, St. Helens.
- Armstrong, R. E. Colston's Girls' Day S., Bristol.
 Bailey, E. Harcourt Lodge, Ankerley.
 Bamber, H. E. Private tuition.
 Bamber, K. M. Private tuition.
 Bartle, F. E. Redbrooke College, Camberne.
 Bedford, F. 12 Reginald Terrace, Leeds.
 Biggin, M. Stoneygate College, Leicester.
 Braithwaite, E. E. Dashwood House School, Banbury.
 Child, L. E. Higher Grade Girls' S., Norwich.
 Christie, M. R. Crescent House College, Bedford.
 Day, E. E. Private tuition.

GIRLS, THIRD CLASS—Continued.

- Dowdall, M. Convent School, Southampton.
Dowling, G. C. Stoke Newington High School, N.
Down, E. M. B. Old Bank House Coll. S., Castle Cary.
Fowler, J. M. Gloucester House Coll. S., Tetbury.
Gibson, A. M. Malvern House School, Birkdale.
Heaton, K. M. Borough Collegiate S., Rotherham.
Heward, L. M. Private tuition.
Heygate, R. M. Castle Hall School, Northampton.
Heyman, S. L. Eagle House, Streatham Common.
Hough, C. B. Avondale College, Winchmore Hill.
Howlett, C. Kendrick Girls' School, Reading.
Jackson, E. St. Mary's Hall, Brighton.
Jarvis, P. 507 Commercial Road, E.
Jeffs, A. K. Bestreben High S., Brondesbury.
Keyworth, M. The Elms, Sutton-on-Trent.
Laycock, M. E. E. St. Helier's Coll., Wellingborough.
Love, E. B. Duke St. Girls' School, Bath.
Lucas, A. M. L. Belmont Ho., Langley, Maidstone.
Luscombe, M. H. Seymour House, Saltash.
Marr, V. E. Trafalgar Square S., Scarborough.
Millington, N. Woodville House, Pershore.
Murphy, A. Milton Mount College, Gravesend.
Nunnerley, S. C. Clovelly, Streatham.
Peach, M. de C. Grosvenor House, Bridport.
Phillips, E. G. High School, Newtown, Mont.
Reeve, E. St. Agnes' School, East Grinstead.
Scholes, E. Portland St. High S., Manchester.
Score, F. K. Hereford Ladies' College.
Shukvin, K. K. High School for Girls, Cork.
Simpson, K. C. The Cowley Schools, St. Helens.
Smith, L. Aventure High School, York.
Stares, B. Private tuition.
Thatcher, A. F. Farfield School, Kidderminster.
Thatcher, M. Private tuition.
Victor, H. M. West Cornwall College, Penzance.
Waddy, A. R. Redbrooke College, Camborne.
Walker, E. F. Shrewsbury Collegiate School.
Wallin, E. York House S., Stony Stratford.
Woodhead, J. Girls' Collegiate High S., Lytham.
Wright, E. V. Camden School for Girls, N.W.
Wyldes, U. M. Somerville House S., Northampton.
- Austin, J. Convent of Loreto, Hulme.
Balls, A. E. Queen's College, Wood Green.
Ball, F. G. The Torquay High School for Girls.
Baverstock, K. Grey Coat Hospital, Westminster.
Bokenham, M. K. M. Ch. of England Public S., Gravesend.
Bouser, S. S. Whitville College, Nottingham.
Brown, J. Grovely College, Bournemouth.
Burbidge, E. C. Montague House S., Weymouth.
Cawthorn, M. E. Somerville House, Newcastle-on-T.
Clappison, E. W. Grosvenor House, Hornsea.
Cook, A. E. Parish Ch. Mid. Class Girls' S., Leeds.
Combes, E. Farrington House, Chichester.
Daly, G. Cleveland, Douglas, Isle of Man.
Dingle, C. H. West Cornwall College, Penzance.
Foster, A. M. Fairfield House, Watford.
Fuller, H. C. Ellenborough House, Clifton.
Goodfellow, C. M. Warehousemen & Clerks' S., Purley.
Guillod, L. A. Fordington House S., Bournemouth.
Harcourt, B. Teddington Coll., Up. Teddington.
Harlow, M. E. Royal Crescent College, Margate.
Healey, E. M. Linden House S., Market Harboro'.
Imlach, G. M. Avondale, Croxteth Rd., Liverpool.
Jones, C. L. Private tuition.
Jones, M. B. M. Beach Mount School, Criccieth.
Lawson, F. S. Brazenose School, Stamford.
Livingstone, A. I. Fernside, Grantham.
Lucas, E. M. The Old Bank House, Lutterworth.
Marsh, M. L. The High School, Newport, Mon.
Moore, A. M. Private tuition.
Nicholson, C. M. Stanmore House, Weston-s.-Mare.
Oldham, M. S. Wynthrop Coll., Ashton-on-Mersey.
Padey, M. F. People's Coll. Girls' S., Nottingham.
Phillips, A. St. Winifred's S., Southampton.
Purchase, G. M. Farrington House, Chichester.
Reimbges, E. Grey Coat Hospital, Westminster.
Richards, M. Sherwood House, Nottingham.
Riley, F. The Crossley & Porter S., Halifax.
Ross, A. F. Malvern House School, Birkdale.
Swale, F. C. The Crossley & Porter S., Halifax.
Swatman, R. P. Private tuition.
Thomas, R. E. M. North Bristol School for Girls.
Tickle, G. The Cowley Schools, St. Helens.
Town, E. Milton Mount College, Gravesend.
Van Oestren, M. The Coborn School, Bow Road, E.
Whitehead, D. G. 13 Wilberforce Street, Hull.
Whiting, E. M. Grey Coat Hospital, Westminster.
Wilcock, M. L. 4 Ashwood Villas, Leeds.
Wilkinson, E. M. The Hill House School, Warwick.
Wooltorton, A. E. Burleigh House, Ipswich.
Wootton, C. Boughrood House College, Brecon.
- Bannister, A. Park House, Belmont Park, Lee.
Bramley, A. Abbey House School, Selby.
Brins, C. W. Benwell View, Newcastle-on-Tyne.
Brooks, W. L. Twyford Ho., K. Henry's Rd., N.W.
Burfield, K. W. "The Close," Steyning, Sussex.
Clarkson, E. A. Darlington High School for Girls.
Cornish, L. L. M. The Academy, Chudleigh.
Cule, S. M. Weirfield School, Taunton.
Curtis, E. M. The Coborn School, Bow Road, E.
Deane, P. 16 Victoria Terrace, Blackpool.
Dellagana, G. M. East Southsea Collegiate School.
Dent, A. B. C. Girls' High School, Bournemouth.
Dickinson, F. E. St. John's House, South Shields.
Dyson, G. Storrs Hall, Ingleton.
Fidge, E. Gravesend Proprietary School.
Godber, M. A. Red Prebend House S., Southwell.
Hatch, F. Twickenham High School.
Hawkins, E. Duke Street Girls' School, Bath.
Hayne, W. M. Heathcote House, Vanbrugh Pk., S.E.
Hollaly, I. Bridge House, East Retford.
- Hunt, E. E. 66 Chelsham Road, Clapham.
Ingram, L. E. C. Stanmore House, Weston-s.-Mare.
Jackson, M. E. Palmer's Endowed School, Grays.
Johnstone, A. Warehousemen & Clerks' S., Purley.
Learnmouth, R. M. Montague House S., Weymouth.
Lyon, V. E. W. 3 Dorchester Terr., The Park, Hull.
Marris, E. E. Stoneygate College, Leicester.
Mayhew, J. Palmer's Endowed School, Grays.
Murray, E. Girls' High S., Burley-in-Wharfedale.
Morris, K. Brighthelmston, Birkdale.
Naylor, M. A. Girls' Grammar School, Keighley.
Neve, E. W. "The Close," Steyning, Sussex.
Orford, M. M. Cambridge House S., Liverpool.
Peach, A. Bridge House, East Retford.
Pilkington, M. L. Cashibury House, Southend.
Poole, A. Hr. Grade S., Atherton, Manchester.
Rayner, M. The Ferns, Green Laues, N.
Reeves, M. Summerfield Hall, Maesycwmmr.
Robson, E. M. The Mount, Darlington.
Rudd, I. Lonsdale House School, Norwich.
Savinon, M. M. O. Private tuition.
Sherwin, R. L. Highfield, Tarvin, Chester.
Spencer, K. Weirfield School, Taunton.
Taylor, C. E. Westgate House, Peterborough.
Taylor, E. E. C. The Coborn School, Bow Road, E.
Tempest, C. Storrs Hall, Ingleton.
Tufnell, N. Woolwich and Plumstead High S.
Vero, F. E. Twyford Ho., K. Henry's Rd., N.W.
Walker, F. A. 14 Foxhouses, Whitehaven.
Walker, M. M. The Hollies, Malvern.
Walker, R. M. Birkenhead High School, Oxtun.
Way, J. St. J. Bradley Lodge Coll. S., Newpt, I.W.
- Abnee, A. K. Fordington House S., Bournemouth.
Anderson, M. L. Bedford College, Liverpool.
Aston, C. St. Michael's Avenue S., N'thampton.
Barker, V. Eversley, Bexhill-on-Sea.
Bater, M. B. 9 Barnstaple St., South Molton.
Biggs, E. Haberdashers' School, Hoxton.
Broatch, H. Abney Park College, N.
Colpoys, F. E. West Hill, Eastbourne.
Cordy, F. 4 Endsleigh Gardens, N.W.
Cox, E. Gresham College, Brixton.
Dartnall, L. Stoke House, Guildford.
Dawson, F. E. Girls' Grammar School, Ripon.
Day, W. Private tuition.
Dimmock, A. Woking High School.
Farmer, M. F. Fordington House S., Bournemouth.
Gordon, L. M. Brooklyn House, Wellington, Salop.
Harris, M. Ellerslie House School, Hull.
Harrod, E. M. 9 Kingsgate Street, Winchester.
Hopkinson, E. Ashley House School, Workop.
Howell, M. M. Surrey House School, Norwich.
Hurst, M. The Laurels, Walsall.
James, E. M. Royal Masonic Inst., Battersea.
Jeffery, G. B. Private tuition.
Johnson, M. I. Private tuition.
Jones, F. S. Queenswood, Clapham Park.
Keller, E. Private tuition.
Lillywhite, E. M. Royal Masonic Inst., Battersea.
Lloyd, A. M. The Hollies, Haudsworth.
Matthews, R. V. Fairfield College, Exmouth.
Miller, S. J. Summerland College, Honiton.
Oliver, D. M. Girls' High S., Bury St. Edmunds.
Paspatti, W. I. Maida Vale College, W.
PHELPS, G. M. High S., Queen's College, B'ham.
Potter, M. H. Brighton House Coll. S., Oldham.
Powell, F. L. Leigh Bank, Leamington.
Roberts, G. S. E. S. N. Hackney High S., Stamford Hill.
Roberson, R. F. Ely House, Wolverhampton.
Routledge, E. S. Hereford Ladies' College.
Silvester, M. M. High School, West Bromwich.
Stanley, G. E. Gravesend Proprietary School.
Stork, G. Grosvenor House, Hornsea.
Strout, B. Edgehill House, Bodmin.
Spitta, E. M. Private tuition.
Sydenham, L. Grosvenor House, Bridport.
Thompson, M. Eversley House School, Bognor.
Tipping, E. M. People's Coll. Girls' S., Nottingham.
Trinder, M. Gunberrie House School, Edgware.
Wagstaff, M. J. Dunoon House School, Newark.
Whittridge, A. C. Grey Coat Hospital, Westminster.
Woodhams, F. M. High School, Redhill.
Woolf, S. L. Pombal House, West Brighton.
- Baldwin, M. Girls' Grammar School, Keighley.
Bebb, K. R. The Chestnuts, Willesden.
Blackie, A. C. Coburg House, Yardley, B'ham.
Briddon, E. Meadowlands, Ashton-on-Mersey.
Carlton, E. C. Kingston School, Hull.
Castle, E. C. Fernside, Grantham.
Clappison, H. Grosvenor House, Hornsea.
Clarke, L. Milton Mount College, Gravesend.
Cobden, H. M. C. Etchingham Park School, Finchley.
Curtis, M. V. 79 Stockwell Park Road, S.W.
Dagg, J. Battlehurst, Hexham-on-Tyne.
Dockrill, F. H. 60 High Street, Maidstone.
Dominy, N. C. Private tuition.
Eaton, E. Linden House S., Market Harboro'.
Gaunt, R. E. Ripley House, Bury St. Edmunds.
Gould, H. A. Berwick House School, Bath.
Grafton, G. Grey Coat Hospital, Westminster.
Hardy, W. Sidcot School, Weston-super-Mare.
Harris, M. Birchington Bay College, Kent.
Hunter, E. L. Vernon House, Bayswater.
Jameson, E. H. South Street, Dorchester.
Jolly, M. E. Wakefield House School, Norwich.
Latham, N. 20, Rawlings Street, Chelsea.
Lee, E. M. The Lindens, St. Quentin Avenue, W.
McPherson, F. Benwell View, Newcastle-on-Tyne.
Nuttall, L. B. Hr. Grade S., Atherton, Manchester.
Powell, A. Queen's College, Acton.
Reid, E. Wandsworth High School for Girls.
Sadler, A. Ladies' College, Ellesmere.
- Serase, E. P. Burgess Hill High School, Sussex.
Slawson, G. J. High School, New Brighton.
Smith, M. M. Convent of Mercy, Chelsea.
Stone, G. E. Stanmore House, Weston-s.-Mare.
Stretton, A. L. Mount House, Melbourne, Derby.
Sullivan, G. A. South Croydon School for Girls.
Tuck, C. M. Gravesend Proprietary School.
Wakefield, A. D. The Laurels, Lutterworth.
Wallworth, L. Lulworth Lodge, Birkdale.
Wayman, M. Ladies' College, Savile Pk., Halifax.
Winnill, M. M. Cliff Park High School, Southend.
- Addison, B. 29 Main Ridge, Boston.
Arkell, H. Wilton House School, Reading.
Bazley, F. N. The Halve, Trowbridge.
Berrington, E. M. The Grove College, Harrogate.
Blay, J. 108 Lansdowne Place, Brighton.
Brown, M. L. Welwick House S., King's Lynn.
Bull, D. D. Dashedwood House School, Banbury.
Bullock, E. Brooklyn House, Wellington, Salop.
Clarke, L. M. Breck Villa S., Poulton-le-Fylde.
Daynes, F. E. Higher Grade Girls' S., Norwich.
Dewey, W. Milton Mount College, Gravesend.
Eacott, A. M. St. Mary's Hall, Brighton.
Ford, E. E. South Street, Dorchester.
Freeman, E. K. Devonshire House S., Wincanton.
Fry, E. Grey Coat Hospital, Westminster.
Friskney, S. L. The Mount, Darlington.
Gibb, J. Claremont House, Ramsey, I. of Man.
Gibson, M. The Hollies, Handsworth.
Goodacre, E. F. St. Winifred's, Clifton.
Graves, L. Elnhurst, Rock Ferry.
Grocock, C. S. St. John's Middle S., Kennington.
Guy, N. E. People's Coll. Girls' S., Nottingham.
Hadlow, E. D. Hatter Street S., Bury St. Edmunds.
Hobbs, E. M. Vernon House, Bayswater.
Horn, A. Eastholme Ladies' S., Lowestoft.
Jackson, E. M. Lynton House School, Margate.
Jolliffe, E. C. Royal Masonic Inst., Battersea.
Jourdain, B. M. Wynaud House, Bowes Park.
Kendall, E. R. Warehousemen & Clerks' S., Purley.
Kenyon, E. Meadowlands, Ashton-on-Mersey.
Kershaw, H. Aventure High School, York.
Lawrance, M. Private tuition.
Leech, E. The Lymes, Sudbury, Suffolk.
Lee, E. Hereford Ladies' College.
Livesay, M. G. Howard College, Bedford.
Malby, A. 7 Hyde Terrace, Tollington Park.
Martyn, E. The Coborn School, Bow Road, E.
Marshall, R. E. Warehousemen & Clerks' S., Purley.
McCreath, A. G. Sterndale School, Wallington.
Minns, S. M. Llandaff House School, Norwich.
Northover, N. K. M. Arundell House, Tisbury.
Patchett, F. M. Ladies' College, Savile Pk., Halifax.
Peeke, B. W. The Academy, Chudleigh.
Prince, E. D. Alstonefield, Ashbourne.
Redwood, M. A. Heathcote Ho., Vanbrugh Pk., S.E.
Roworth, F. G. Palmer's Endowed School, Grays.
Stevens, K. E. Private tuition.
Talbot, J. M. Kendrick Girls' School, Reading.
Thomas, L. Cliff Park High School, Southend.
Tucker, I. C. Royal Masonic Inst., Battersea.
Waine, M. B. South Croydon School for Girls.
Warrillow, G. H. Royal Masonic Inst., Battersea.
Watkins, F. K. Ladies' College, Wellington, Salop.
Whitlock, E. H. Alstonefield, Ashbourne.
Wood, M. M. Greenhill House, Stourbridge.
- Allcock, A. Queen's Park College, W.
Atlee, A. M. Girls' High School, Bournemouth.
Blackburn, E. Girls' Grammar School, Halifax.
Blows, F. E. Palmer's Endowed School, Grays.
Bonham, L. Queenswood, Clapham Park.
Bridges, A. A. Delbury Ho. S., Chippenham Rd., W.
Buttle, S. Ladies' College, Wellington, Salop.
Cohman, A. M. Everard House School, King's Lynn.
Davis, M. I. Private tuition.
Doeg, A. E. Sidecot School, Weston-super-Mare.
Elwen, F. M. Glan Dyfi House, Wisbech.
Farrance, L. J. College House, Bridgwater.
Farish, M. F. High School, New Brighton.
Feltham, E. 28 Castle Street, Salisbury.
Frost, M. L. The Lindens, St. Quentin Avenue, W.
Halls, C. M. Girls' High S., Bury St. Edmunds.
Hall, M. Higher Grade School, Huntingdon.
Hall, M. St. Edmund's House, Hunstanton.
Hannigan, A. St. Helen's School, Streatham.
Harper, J. St. Martin's College, Colechester.
Harding, H. M. Thelwall Lawn, Southport.
Hornby, A. Trafalgar Square S., Scarborough.
Jennis, I. M. High School, Crewkerne.
Jenkinson, E. The Cowley School, St. Helens.
Johnston, H. Devonshire House, Carlisle.
Jones, A. M. South View, Ironbridge.
Jones, E. I. E. The Torquay High S. for Girls.
Knight, E. Mount House, Melbourne, Derby.
Little, A. Leicester Road S., Melton Mowbray.
Marriott, E. M. 64 Avenue Parade, Accrington.
McRitchie, A. The Paignton High School for Girls.
Mills, E. M. Lonsdale House School, Southall.
Morrell, A. Abbey House School, Selby.
Nowell, E. Delbury Ho. S., Chippenham Rd., W.
Osborne, M. H. Old Abbey School, Derby.
Palmer, A. K. Girls' High S., Bury St. Edmunds.
Pape, M. M. Llandaff House School, Norwich.
Park, A. M. Crescent House College, Bedford.
Parry, H. M. High School, Crewkerne.
Phillips, E. Royal Masonic Inst., Battersea.
Pinfold, E. Haberdashers' School, Hoxton.
Pool, B. S. Germania College, Canonbury.
Pope, E. M. Montague House S., Weymouth.
Rand, E. M. Stanley House School, Durham.
Roberts, M. S. Beach Mount School, Criccieth.
Saunders, B. E. Brook House, Woodbridge.

GIRLS, THIRD CLASS—Continued.

- Smith, F. E. Girls' Grammar School, Ripon.
 Snelgrove, E. 31 Carnarvon Road, Stratford.
 Spurgeon, A. L. Manor House School, Havant.
 Starling, E. A. Eastholme, Farnham.
 Terrell, K. W. Montague House S., Weymouth.
 Wickham, M. J. High S., Queen's Coll., Birmingham.
 Wilkes, A. M. Camden School for Girls, N.W.
- Ainsworth, B. Crescent House College, Bedford.
 Bell, M. I. The Mount, Darlington.
 Bevan, D. M. Fairfield House, Watford.
 Butterfield, E. Girls' Grammar School, Keighley.
 Campbell, M. Portland St. High S., Manchester.
 Carter, N. The High S., Stockton-on-Tees.
 Colley, M. J. Royal Crescent College, Margate.
 Conradi, L. H. E. Ladywell House, Dover.
 Dainty, H. M. Oseney Coll., Oseney Crescent, N.W.
 Davies, M. Belle Vue, Swansea.
 Dugdale, M. A. Private tuition.
 Farr, A. L. Hereford Ladies' College.
 Fleming, E. G. Derwent House, Whalley Range.
 Gregory, M. E. Alwyne College, Canonbury.
 Gonly, E. G. 174 Church St., Stoke Newington.
 Hadley, E. M. Warehousemen & Clerks' S., Purley.
 Hartley, M. Wyntrop Coll., Ashton-on-Mersey.
 Hart, F. Avondale College, Winchmore Hill.
 Hatfield, E. M. Red Prebend House S., Southwell.
 Henderson, R. K. Gravesend Proprietary School.
 Jackson, J. E. College House School, Peckham.
 Langham, E. Handsworth Ladies' College.
 Lear, M. Seaton House S., Mutley, Plymouth.
 Marsden, E. A. The Crossley & Porter S., Halifax.
 Marshall, M. J. St. Anne's High School for Girls.
 Mills, M. J. Hereford Ladies' College.
 Morgan, I. Milford House S., Newport, Mon.
 Montresor, M. C. Crescent House College, Bedford.
 Morris, A. Claremont High S., Shrewsbury.
 Nash, E. M. Grey Coat Hospital, Westminster.
 Orton, D. M. Caldecote Towers, Bushey Heath.
 Pearson, M. I. Girls' Grammar School, Ripon.
 Pegge, M. Gresham College, Brixton.
 Punchard, K. O. Riveshead, Waterloo, Liverpool.
 Rintoul, A. I. Burlington Mid. Class Girls' S., W.
 Roberts, A. F. Colston's Girls' Day School, Bristol.
 Shaw, J. The Grange, Marple.
 Shepperson, E. M. Westgate House, Peterborough.
 Sherwood, D. The Hollies, Handsworth.
 Slocombe, F. The High School, Dewsbury.
 Smith, G. C. The Hollies, Handsworth.
 Southall, A. A. M. Kidderminster High School.
 Staley, A. L. Cliswick High School for Girls.
 Stiling, A. H. Girls' High School, Bridgwater.
 Stringer, E. H. St. Mary's Hall, Brighton.
 Sykes, B. N. Farrington House, Chichester.
 Symes, E. M. Bank House, Over.
 Thompson, N. Norwood Coll., Withington, Lancs.
 Vine, E. South Street, Dorchester.
 Waite, M. Benwell View, Newcastle-on-Tyne.
 Wallis, M. Highbury, Newport, Mon.
 Warburton, A. St. George's House, Doncaster.
 Wells, A. The Collegiate S., Buckhurst Hill.
 Williamson, C. E. Southernhay School, Exeter.
 Woods, M. Melbourn House Coll., Clapton Sq.
- Adams, G. A. Fortescue College, Radstock, Bath.
 Barrow, M. Westgate House, Peterborough.
 Biggs, S. Girls' Grammar School, Keighley.
 Booker, L. M. Orford College, Walthamstow.
 Boughton, K. H. 26 Ashley Road, Hornsey Rise.
 Blackaller, C. M. Park House, Belmont Park, Lee.
 Burgess, E. R. High School, Sittingbourne.
 Cachemaille, M. Woodlands, North Hill, Highgate.
 Cooke, M. E. Norfolk House, Gosport.
 Cornford, E. Greenhill House, Stourbridge.
 Davis, M. M. St. Augustine's Coll. S., Kilburn, N.W.
 Dutton, A. E. Chester Street School, Wrexham.
 Edmunds, M. J. High School, Newtown, Mont.
 Ellard, A. St. Michael's Aven. S., Northampton.
 Evans, A. Cae Llenor School, Carnarvon.
 Evans, M. E. St. Mary's Villa, Newtown, Mont.
 Ewen, K. I. Caldecote Towers, Bushey Heath.
 Gain, M. E. Fulham Park College, S.W.
 Gibson, L. B. Kingston School, Hull.
 Gough, E. N. Private tuition.
 Hannant, E. S. Grey Coat Hospital, Westminster.
 Henham, F. High School, Sittingbourne.
 Hibbert, S. Clifton House, Swinton, Rotherham.
 Hindley, J. H. The Cowley Schools, St. Helens.
 Hoadley, I. M. Colonnade School, Eastbourne.
 Hughes, J. Plas Madoc, Raabon.
 Hurlbutt, H. Kensington House, Birkenhead.
 Jones, R. A. Fairholme, Rhyl.
 King, F. E. Grey Coat Hospital, Westminster.
 Knight, N. Edinburgh House, Midhurst.
 Lethbridge, C. M. Dorchester House, Clacton-on-Sea.
 Marshall, K. Collingwood College, Lee.
 Martin, E. M. St. Augustine's, Margate.
 Martin, G. E. Hr. Grade S., Atherton, M'chester.
 Martyn, E. F. 2 Oxford Villas, Cheltenham.
 Minns, E. Lichfield House S., Newport, I.W.
 Newcomb, L. G. Bryntysilio, Carnarvon.
 Pateman, H. I. Fairfield College, Exmouth.
 Paterson, W. A. Crescent House College, Bedford.
 Penney, E. Cambridge House, Guildford.
 Pillow, M. J. Farrington House, Chichester.
 Pirie, L. Grey Coat Hospital, Westminster.
 Pledger, E. F. Melbourn House Coll., Clapton Sq.
 Pocklington, E. Stanley House School, Durham.
 Pugh, G. 26 Ashley Road, Hornsey Rise.
 Robson, E. M. Woodland House School, Thirsk.
 Smith, C. M. Kendrick Girls' School, Reading.
 Smith, H. L. Bromley Park College, Kent.
 Swanson, A. M. Kensington House, Birkenhead.
- Tassell, E. East Southsea Collegiate School.
 Wardle, D. Brincliffe, Nottingham.
 Webb, L. M. Clifton Lodge, Stafford.
 Wright, F. M. People's Coll. Girls' S., Nottingham.
- Airey, G. M. Ely House, Wolverhampton.
 Balme, E. Forest Gate Collegiate School.
 Barker, M. A. Connaught House S., Attleboro'.
 Barton, M. E. St. Margaret's, Westgate-on-Sea.
 Bowton, C. H. Palmer's Endowed School, Grays.
 Chaplin, M. F. Camden School for Girls, N.W.
 Chippendale, A. E. Highfield, Harrogate.
 Clark, H. G. Crescent House College, Bedford.
 Cole, F. The Mount School, Banbury.
 Cox, F. J. Twyford Ho., K. Henry's Rd., N.W.
 Coy, E. L. Stamford House, Bourne, Lincs.
 Crowder, E. Eastgate School, Northampton.
 Culverwell, A. E. Girls' Gram. School, Ilminster.
 Dobell, J. Brighton House Coll. S., Oldham.
 Edwards, E. Clergy Daughters' School, Bristol.
 Ellams, M. Scotia House, Liverpool.
 Elderkin, A. St. Michael's Aven. S., Northampton.
 Fawcett, J. Private tuition.
 Fletcher, E. High School for Girls, Farnworth.
 Fuller, A. E. 26 Ashley Road, Hornsey Rise.
 Harrison, D. St. George's House, Doncaster.
 Haslam, G. E. M. Park S., Hr. Broughton, Manchester.
 Hayne, A. M. 17 Tavistock Place, Plymouth.
 Inglis, M. B. Caldecote Towers, Bushey Heath.
 James, R. S. St. Helier's College, Wellingboro'.
 Jones, H. B. Private tuition.
 Lawford, E. K. Leicester High School for Girls.
 Martin, G. E. Melbourne Coll., Thornton Heath.
 Morgan, M. Milford House S., Newport, Mon.
 Mortou, A. The Convent, Erith.
 Mountford, A. M. Kidderminster High School.
 Murray, I. G. Camden School for Girls, N.W.
 Parker, M. W. S. Augustine's Coll. S., Kilburn, N.W.
 Pearson, S. G. The High School, Preston.
 Pickering, E. Wenderholme College, Sale.
 Powell, C. Clergy Daughters' School, Bristol.
 Richardson, J. The High School, Hull.
 Roberts, A. M. Shrewsbury Collegiate School.
 Sankey, E. J. Harborne Ladies' Coll., Birmingham.
 Scrase, H. M. Burgess Hill High School, Sussex.
 Squire, M. Cambridge House S., Battersea Pk.
 Williams, L. E. Devonshire House, Carlisle.
 Woodcock, M. Clergy Daughters' School, Bristol.
- Aikman, J. M. Lansdowne House S., Llandudno.
 Anderson, E. M. Roxburgh House, Gosforth.
 Benn, A. Storrs Hall, Ingleton.
 Bosomworth, A. Friends' School, Saffron Walden.
 Bradbeer, L. H. Brentford Collegiate School.
 Close-Brooks, E. K. Private tuition.
 Conyers, K. 9 Well Street, Bury St. Edmunds.
 Daniel, A. Grey Coat Hospital, Westminster.
 Deacon, O. L. King Street School, Luton.
 Dempster, J. J. Kensington House, Birkenhead.
 Edeson, A. E. Barrington House, York.
 Farthing, E. M. Rosebank School, Alton.
 Fuller, F. R. Fairfield House, Watford.
 Goodall, E. Clergy Daughters' School, Bristol.
 Greaves, M. E. The Hall, Montpellier, Cheltenham.
 Greensill, B. Cleveland, Douglas, Isle of Man.
 Griffin, E. The Laurels, Walsall.
 Harbinson, M. A. Clevedon Lodge, Reading.
 Hardy, A. E. High School, Blandford.
 Hamilton, E. A. Southampton Girls' College.
 Higgins, N. H. St. Helen's School, Streatham.
 Howarth, E. St. Anne's High School for Girls.
 Irlam, L. Portland St. High S., Manchester.
 Jackson, E. C. Fulford Field House, York.
 Jackman, N. Temple Square, Aylesbury.
 Johns, E. Lansdowne House, St. Columb.
 Lee, F. M. Terrace School, Chesterfield.
 Lewis, M. L. Higher Grade S., Merthyr Tydfil.
 Ludbrook, M. M. The Coborn School, Bow Road, E.
 Mackley, M. I. Hanover Park College, Peckham.
 Matthew, L. Highfield, Harrogate.
 Paull, A. Parc Bracket School, Camborne.
 Pearce, A. Llanreath, Boscombe, Bournemouth.
 Peel, M. D. Sunny Bank Ladies' Coll., Wilmslow.
 Perry, G. The Hawthorns, Ealing Common.
 Power, M. L. The Chestnuts, Willesden.
 Pratt, M. Holloway College, N.
 Raynor, E. Sheringham Ho., Mansfield, Notts.
 Read, E. L. A. Grey Coat Hospital, Westminster.
 Rhodes, E. Girls' Grammar School, Halifax.
 Roberts, D. G. Connaught House S., Attleboro'.
 Rogers, M. 43 Wenban Road, Worthing.
 Rowlands, M. Walthamstow Hall, Sevenoaks.
 Starling, E. M. Mornington House, Gt. Yarmouth.
 Stone, E. Milford House S., Newport, Mon.
 Taylor, K. I. Mecklenburg House, Putney Hill.
 Tilling, M. M. Bryntysilio, Carnarvon.
 Turner, D. M. Colston's Girls' Day S., Bristol.
 Webb, E. Greenhill House, Stourbridge.
 Wem, F. L. Ladies' College, Wellington, Salop.
 Winch, A. E. Royal Crescent College, Margate.
 Witt, A. M. St. Winifred's S., Southampton.
 Wood, M. G. Claremont Ho., Ramsey, I. of Man.
 Wooldridge, M. Greenhill House, Stourbridge.
- Clifton, A. B. Kenwyn House School, Devonport.
 Clisby, A. M. Rockhill House S., Folkestone.
 Cloete, E. L. Crescent House College, Bedford.
 Collingham, L. Private tuition.
 Cowling, H. Haberdashers' School, Hoxton.
 Coxeter, C. W. Mountside High School, Hastings.
 Davies, L. Boroughbridge Girls' School.
 Durant, K. Queen's College, Haverstock Hill.
 Fisher, B. A. M. Private tuition.
 Fisher, B. L. Hamilton House, Holloway.
 Fountain, H. M. Wynaud House, Bowes Park.
 Great-Rex, F. M. Caeleon House, Aberystwith.
 Ham, M. E. Lonsdale House School, Norwich.
 Harper, M. W. Benwell View, Newcastle-on-Tyne.
 Harrison, E. St. George's House, Doncaster.
 Hill, C. M. 4 Trinity Terrace, Cheltenham.
 Hiscocks, R. L. Burlington Mid. Class Girls' S., W.
 Hitchcock, M. E. Ivy House, Bures, Suffolk.
 Hughes, M. D. Areville College, Rhyl.
 Hurman, E. Henley House, Penarth.
 Hynes, E. B. d. Crescent House College, Bedford.
 Jackson, E. Wakefield House School, Norwich.
 Johnson, E. York Lodge, Fulham.
 Johnson, H. M. Woolwich and Plumstead High S.
 King, M. L. Airedale House School, Gravesend.
 Kirkwood, M. 71 Lichfield Grove, Finchley.
 Knight, E. M. Kent College, Folkestone.
 Leader, E. Private tuition.
 Lowe, K. St. Martin's, Lincoln.
 Lumsden, R. Stanley House School, Durham.
 Malcolm, D. V. Private tuition.
 Markey, H. Manor House School, Havant.
 McMullen, N. M. Mecklenburg House, Putney Hill.
 Merritt, E. O. Malvern House, Reading.
 Nicholson, R. M. Ashley House School, Worksop.
 Parker, R. K. Private tuition.
 Parkes, A. E. St. Helier's College, Shifnal.
 Parrott, D. M. Private tuition.
 Peppercorn, B. Private tuition.
 Riley, E. Clark's Hill High S., Prestwich.
 Robinson, J. Friends' School, Saffron Walden.
 Rope, H. St. Francis Xavier's Conv., Grimsby.
 Smith, G. M. Froebel House School, Weymouth.
 Smith, W. Darlington High School for Girls.
 Southorn, E. M. South View, Ironbridge.
 Stone, L. St. Katharine's S., Kennington Pk.
 Stranger, B. E. Edgehill House, Bodmin.
 Taylor, A. Y. Birkenhead High School, Oxtou.
 Thatcher, K. M. Private tuition.
 Waddington, M. E. Avondale College, Winchmore Hill.
 Warren, S. M. Gunnerside School, Plymouth.
 Whittaker, A. W. Brighton House Coll. S., Oldham.
- Adkins, M. Braemar College, Stroud Green.
 Almond, R. Grey Coat Hospital, Westminster.
 Bailey, E. C. Montague House S., Weymouth.
 Barber, H. G. Twyford Ho., K. Henry's Rd., N.W.
 Barlow, E. Park House, Belmont Park, Lee.
 Beales, G. L. Connaught House S., Attleborough.
 Bennett, M. H. Clevedon Lodge, Reading.
 Bevan, C. St. Agnes' School, East Grinstead.
 Chantler, E. L. King Street School, Luton.
 Colebourne, M. E. Queen's College, Acton.
 Davis, E. B. Private tuition.
 Davis, F. E. Milford House, Abergavenny.
 Dives, H. M. Eversley College, Wallington.
 Earle, E. Seaton House S., Mutley, Plymouth.
 Garlick, G. Elmhurst, Rock Ferry.
 Gibbons, N. Valletort Rd. S., Stoke, Devonport.
 Godfrey, B. M. St. Michael's Aven. S., Northampton.
 Hamilton, M. Battlehurst, Hexham-on-Tyne.
 Hawkins, M. S. Claremont House S., N. Kensington.
 Heaven, H. M. St. Mary's Hall, Brighton.
 Holman, R. M. Devonshire House S., Wincanton.
 Hopley, B. E. Mansfield House S., Southport.
 Hubbard, L. A. Alwyne College, Canonbury.
 Hughes, E. L. St. David's School, Carnarvon.
 Irwin, L. E. Shrewsbury Collegiate School.
 Jackson, F. The Towers School, Saltburn.
 Jacques, W. M. Stoneygate College, Leicester.
 Jones, E. A. Burlington Mid. Class Girls' S., W.
 Kayll, L. T. Claremont Ho., Ramsey, I. of Man.
 Malcolm, J. M. S. London College, Brixton Road.
 Marriage, H. Sidcot School, Weston-super-Mare.
 Martyn, G. M. Gunnerside School, Plymouth.
 Munton, E. C. Private tuition.
 Nunnerley, L. P. Clovelly, Streatham.
 Price, C. Bank House, Bakewell, Derby.
 Read, M. F. Royal Masonic Inst., Battersea.
 Rutty, B. J. The Coborn School, Bow Road, E.
 Salter, J. R. Branscombe House School, Exeter.
 Scorer, F. Trebovir House, South Kensington.
 Sparrow, C. Knole Hall College, Bournemouth.
 Sparrow, E. B. Belmont Ho., Langley, Maidstone.
 Steavenson, M. Darlington High School for Girls.
 Stubbs, V. K. Lansdowne House S., Llandudno.
 Turner, C. C. 3 Myddelton Road, Hornsey.
 Yates, E. M. Milford House, Abergavenny.
 Weight, E. C. Daisy Bank School, Rochdale.
 Wilson, M. M. Fern Bank, Wandsworth Common.
 Wood, E. F. The Queen's School, Chester.
- Aspinall, K. G. Private tuition.
 Atwell, F. E. Avonbank House, Bath.
 Belcham, E. M. B. Grove House, Southend.
 Binns, H. The Old Bank House, Lutterworth.
 Browse, E. Glenholme School, Paignton.
 Burstow, K. Llanreath, Boscombe, Bournemouth.
 Carter, O. M. The High S., Stockton-on-Tees.
 Clarke, H. Argyll School, Leytonstone.
 Cox, E. F. Camden School for Girls, N.W.
 Cox, E. M. Leighton House School, Minehead.
 Crawford, M. The Newlands, Bootle, Liverpool.
 Cross, M. Beaufort Ho. S., Stratford-on-Avon.
- Alcock, S. A. South View, Ironbridge.
 Allen, M. M. The Westlands, Scarborough.
 Ashdowne, E. E. Carden School, Peckham Rye.
 Baunton, M. M. Montague House S., Weymouth.
 Booth, L. J. Girls' Grammar School, Keighley.
 Bradshaw, F. H. The Cowley Schools, St. Helens.
 Bright, M. Crouch Hill High School for Girls.
 Brown, E. M. St. Winifred's S., Southampton.
 Buswell, M. C. The Modern School, Torquay.
 Clack, J. A. Camden School for Girls, N.W.

GIRLS, THIRD CLASS—Continued.

Collins, H. M. Eagle House, Streatham Common.
 Daniels, I. K. Surrey House School, Norwich.
 Doig, A. M. Southampton Girls' College.
 Evans, E. I. The High School, Newport, Mon.
 Evans, M. J. Caerleon House, Aberystwith.
 Foxcroft, G. Crouch Hill High S. for Girls.
 Gould, A. E. Hamilton House, Holloway.
 Hammond, M. J. Warwick House S., Littlehampton.
 Hart, L. E. Clarence House, Kennington Road.
 Hedges, M. Camden House, Leighton Buzzard.
 Holt, A. Brighthelmston, Birkdale.
 Johnson, B. J. Mornington House, Gt. Yarmouth.
 Jones, A. M. The Torquay High S. for Girls.
 Jones, E. M. The Ladies' Coll., Newport, Mon.
 Kemp, E. B. St. Cloud, Southsea.
 Knight, H. Grey Coat Hospital, Westminster.
 Latham, M. D. Birkenhead High School, Oxtun.
 Loveys, A. L. 17 Tavistock Place, Plymouth.
 Lowe, D. Crumpsall Ladies' S., Manchester.
 Mackay, A. E. St. John's Middle S., Kennington.
 Partridge, F. Crouch Hill High School for Girls.
 Piper, K. E. Claremont High S., Shrewsbury.
 Roy, M. E. 2 Ravensworth Terrace, Durham.
 Sewell, E. E. Avondale, Croxteth Rd., Liverpool.
 Sykes, A. M. M. The Cedars S., Barton-on-Humber.
 Thornicroft, D. F. Ladies' College, Wellington, Salop.
 Thorndick, L. Gunberrie House S., Edgware.
 Turnbull, R. Wilton House School, Reading.
 Wheeler, E. M. 1 Cliff Park Villas, Southend.
 Whitaker, B. Ladies' Coll., Savile Park, Halifax.
 Whitsett, E. Eagle House, Streatham Common.
 Wilton, M. Edgbaston High School for Girls.
 Young, D. Forest Gate Collegiate School.

Abbney, B. G. Camden House, Biggleswade.
 Bailey, M. Girls' Grammar School, Keighley.
 Bamfield, K. M. Alexandra House School, Clifton.
 Barrett, A. M. Broomfield, Kew.
 Bell, E. Benwell View, Newcastle-on-Tyne.
 Brown, L. A. West Borough, Wimborne, Dorset.
 Cockshut, I. "Highfield," Highbury Place, N.
 Davey, K. E. Surrey House School, Norwich.
 Dobbin, M. E. Private tuition.
 Drabble, M. Cavendish School, Matlock Bank.
 Eva, E. B. Redbrooke College, Camborne.
 Fawcett, M. Workington High School for Girls.
 Foreman, M. E. M. 18 St. Ann's Villas, Notting Hill.
 Garlick, K. Betley Ladies' College, Crewe.
 Gazzard, K. E. Tewkesbury High School for Girls.
 Glover, M. E. Camden School for Girls, N.W.
 Gorham, A. L. High School, Sittingbourne.
 Grigor, M. H. T. Cambridge House S., Battersea Pk.
 Halsall, C. Bedford College, Liverpool.
 Harding, B. Rushford House School, Longsight.
 Henshaw, F. K. Avondale, Croxteth Rd., Liverpool.
 Horsfall, E. The Grange, Marple.
 Hunt, D. le M. Queen's College, Acton.
 James, M. Caerleon House, Aberystwith.
 Jones, E. A. G. Palmer's Endowed School, Grays.
 Jones, E. C. F. Wandsworth High School for Girls.
 King, A. High Street School, Stourbridge.
 King, E. M. Bank House, Over.
 Kirkby, M. Ashley House School, Worksop.
 Knight, N. I. Claremont House S., N. Kensington.
 Leeman, M. B. Moseley High School for Girls.
 Lowe, A. F. Queenswood, Clapham Park.
 Machin, A. E. Howard College, Bedford.
 Marks, J. High School, Newton Abbot.
 Nickels, M. Elmhurst, Rock Ferry.
 Owers, E. G. The Coborn School, Bow Road, E.
 Podmore, A. J. Ladies' Coll., Wellington, Salop.
 Powell, K. Clergy Daughters' School, Bristol.
 Prior, M. 193 Bristol Road, Edgbaston.
 Quixley, M. L. Chagford, South Croydon.
 Reed, L. E. S. Augustine's Coll. S., Kilburn, N.W.
 Rix, E. B. Dorchester House, Clacton-on-Sea.
 Sage, F. F. Colston's Girls' Day S., Bristol.
 Seabry, R. K. L. Grove House, Southend.
 Stuart, C. Henry Street School, Bolton.
 Stubbs, H. M. 4 Endsleigh Gardens, N.W.
 Thomas, A. A. Higher Grade S., Merthyr Tydfil.
 Thorne, M. J. Cambridge House, Guildford.
 Tompsett, L. Strafford House S., Kettering.
 Toop, W. Belmont House, Alton.
 Tripp, E. E. 7 Hyde Terrace, Tollington Park.
 Wade, I. West Cornwall College, Penzance.
 Wade, L. Wandsworth High School for Girls.
 Wiggins, K. R. Wandsworth High School for Girls.
 Williams, S. L. Private tuition.
 Yeo, E. M. Redbrooke College, Camborne.
 Camborne House, Torquay.

Allen, E. M. M. Cambridge House S., Battersea Pk.
 Armitage, M. A. Highfield, Harrogate.
 Brayley, L. L. Camborne House, Torquay.
 Buckle, K. Woodville House, Pershore.
 Burton, L. M. Royal Crescent College, Margate.
 Cardwell, K. Girls' High School, Bournemouth.
 Carver, R. Mowbray Place, Sowerby, Thirsk.
 Castelow, A. Hope House, New Leeds.
 Cross, E. A. Ascham House, Southampton.
 Davey, E. E. Westgate House, Peterborough.
 Deakin, C. M. The Ladies' College, Newport, Mon.
 De Fernand, M. M. J. 18 St. Ann's Villas, Notting Hill.
 Felton, P. Kidderminster High School.
 Foster, E. F. The Paignton High School for Girls.
 Griffiths, H. Margate Ladies' College.
 Galloway, L. K. Alwyne College, Canonbury.
 Halliday, M. Jewish High School for Girls, W.C.
 Holbrook, B. West Cornwall College, Penzance.
 Hyde, M. Cashibury House, Southend.
 Ide, F. D. Milton Lodge, South Woodford.
 King, S. Kent College, Folkestone.

Martin, E. The High School, Gravesend.
 Mason, M. E. Twickenham College for Girls.
 Nichols, A. Cliff Park High School, Southend.
 Owen, J. C. Areville College, Rhyl.
 Peate, E. M. Huntcliffe House, Harrogate.
 Peeke, S. E. The Academy, Cludleigh.
 Peeks, E. Henry Street School, Bolton.
 Peppercorn, E. R. Private tuition.
 Perry, L. Bridge House, East Retford.
 Phillips, A. Grey Coat Hospital, Westminster.
 Shaw, M. B. The Wolverhampton High School.
 Simken, F. M. Eastwood House School, Notts.
 Stephen, M. M. The Athenæum, Maidstone.
 Talbot, E. M. Agra House S., Tunbridge Wells.
 Tansley, E. L. Glan Dyfi House, Wisbech.
 Tatchell, F. M. E. Highbridge House, Wappenham.
 Tompkins, W. M. Linden House S., Market Harboro'.
 Thompson, M. A. Belmont House, Derby.
 Wallis, A. B. Grosvenor House, Horsea.
 Webb, R. E. Berwick House School, Bath.
 Whiteman, F. St. John's Middle S., Kennington.
 Williams, C. E. Bryntysilio, Carnarvon.

Adcock, H. M. Chatsley House, Syston, Leicester.
 Attwell, C. Haberdashers' School, Hoxton.
 Ayliffe, M. L. Mayfield, Marlborough.
 Bailey, C. M. M. The Coborn School, Bow Road, E.
 Bean, A. K. 1 Clyde Terrace, Hull.
 Blamey, M. Redbrooke College, Camborne.
 Bone, E. S. Devon't Stoke & Stonehouse High S.
 Brayshaw, H. H. Derwent House, Whalley Range.
 Cannell, A. Cleveland, Douglas, Isle of Man.
 Coleman, A. B. Haddo & Westwood Coll. S., Scarbro'.
 Collier, H. I. 385 Glossop Road, Sheffield.
 Crake, E. 1 Howard Terrace, Morpeth.
 Davies, V. The Hollies, Hagley Road, B'ham.
 Dixon, L. Convent of Loreto, Hulme.
 Dun, G. H. Crescent House College, Bedford.
 Ellis, P. Private tuition.
 Fastnedge, M. R. Hamilton House, Holloway.
 Gosling, E. N. "The Close," Steyning, Sussex.
 Great-Rex, E. G. Caerleon House, Aberystwith.
 Green, M. Girls' Grammar School, Keighley.
 Hanson, E. Girls' Grammar School, Halifax.
 Hill, F. E. Girls' High School, Bournemouth.
 Hocking, H. Brighton House Coll. S., Oldham.
 Horner, M. Burnley Middle Class School.
 Jewell, J. Royal Crescent College, Margate.
 Jouzel, E. S. J. Shirley House, Jersey.
 Krumbholz, R. Eversley House School, Bognor.
 Latimer, W. M. The Chestnuts, Willesden.
 Limrick, L. A. Riverstead, Waterloo, Liverpool.
 Maddox, J. A. The Coborn School, Bow Road, E.
 Menagh, M. Ballymodan School, Bandon, Cork.
 Meyer, R. West End House, Wellingborough.
 Mills, E. M. Rockville S., Chorlton-cum-Hardy.
 Moss, E. R. Girls' Grammar School, Ripon.
 Noakes, N. B. Colonnade School, Eastbourne.
 Parkinson, A. Salisbury Coll., Stonycroft, L'pool.
 Pattison, C. G. Claremont House, Sunderland.
 Rooke, M. Southdene, Ramsgate.
 Roper, E. S. Ladies' Coll., Wellington, Salop.
 Rose, M. B. The Cowley Schools, St. Helens.
 Rumbold, D. Montrose House, Margate.
 Seaborn, E. F. Holly House, Tottenham.
 Smith, M. L. South Street, Dorchester.
 Solomon, K. E. The George Green Schools, Poplar.
 Stepheuson, J. M. Gunnerside School, Plymouth.
 Tate, G. The High School, Stockton-on-Tees.
 Walker, E. M. Headland School, Plymouth.
 Wilsou, I. D. Fernbank, Wandsworth Common.
 Wiuterbottom, C. O. Brighton House Coll. S., Oldham.
 Young, J. H. Hamilton House, Holloway.

Abell, D. Belmont House, Derby.
 Alder, F. M. 6 Prince's Avenue, Liverpool.
 Astill, A. E. People's Coll. Girls' S., Nottingham.
 Beer, M. A. 4 Ashwood Villas, Leeds.
 Blake, N. W. The Woodrighs, Moseley.
 Borthwick, L. M. 6 Prince's Avenue, Liverpool.
 Boulton, L. Areville College, Rhyl.
 Burrows, E. C. Warehousemen & Clerks' S., Purley.
 Cantlon, M. H. D. Norwood College, S.E.
 Christie, M. H. 1 Mandeville Pl., Manchester Sq., W.
 Crawford, M. E. "Eastville," Moor Oaks, Sheffield.
 Deacon, F. M. Sea View, West Cowes, I. W.
 Dixon, M. Convent of Loreto, Hulme.
 Durrant, E. F. 17 Powis Square, Brighton.
 Edge, A. L. M. Walthamstow Hall, Sevenoaks.
 Edwards, W. L. Ladies' College, Ellesmere.
 Farnell, R. S. Huntcliffe House, Harrogate.
 Fisher, E. Richmond & Twickenham High S.
 French, K. M. Ch. of England Public S., Gravesend.
 Garrood, F. L. Oxford College, Clacton-on-Sea.
 Gyles, F. J. St. Cloud, Southsea.
 Hamilton, C. Wilton House, Chester.
 Hardbottle, M. Abbey House School, Selby.
 Hicks, L. L. Colston's Girls' Day S., Bristol.
 Johnson, A. M. Albany High School, Brighton.
 Johnston, H. Crouch Hill High School for Girls.
 Lavington, E. P. Private tuition.
 Lawrence, N. J. The High School, Willenhall.
 Lea, A. Eversley, Southport.
 Muggleton, L. E. The George Green Schools, Poplar.
 Norman, B. A. Alexandra College, Shirley.
 Pask, P. G. Ripley House, Bury St. Edmunds.
 Peters, E. M. Carlton Hill School, Exmouth.
 Postgate, E. B. Ch. of England Public S., Gravesend.
 Prentiss, M. M. F. High School, Sittingbourne.
 Probert, E. M. Gunnerside School, Plymouth.
 Rosser, F. E. Milford House, Abergavenny.
 Saunders, A. E. Montague House S., Weymouth.
 Scarlett, M. Burlington Mid. Class Girls' S., W.

Shapcott, J. Holloway College, N.
 Shepley, K. Wilton House School, Reading.
 Shipp, B. M. High School, Blandford.
 Spearing, E. E. Rossholme, Weston-super-Mare.
 Strachan, M. B. St. Olave's School, Cardiff.
 Watkis, E. M. M. South View, Ironbridge.
 Watts, F. K. Harborne Ladies' College, B'ham.
 Wilkinson, F. L. High School, Retford.
 Wilson, J. Grosvenor House, Bridport.
 Winnill, E. A. Cliff Park High School, Southend.
 Wragg, A. Burlington Mid. Class Girls' S., W.
 Wright, B. P. Enville Street, Stourbridge.

Adams, E. M. St. Winifred's S., Southampton.
 Allen, N. G. The Lynes, Sudbury, Suffolk.
 Arnold-Smith, G. H. Hendon College, N.W.
 Bannister, N. Bridge House, East Retford.
 Bazley, S. E. The Halve, Trowbridge.
 Berridge, J. Leicester Road S., Melton Mowbray.
 Bogle, E. M. T. Castle Hall School, Northampton.
 Brown, M. Broom Down House S., Burnham.
 Browse, E. B. Glenholme School, Paignton.
 Bruce, S. J. Darlington High School for Girls.
 Comerford, L. R. 6 Reigate Villas, Sutton.
 Davis, E. L. Rockhill House S., Folkestone.
 Devereux, A. Grey Coat Hospital, Westminster.
 Eley, G. Avenium High School, York.
 Fone, E. M. The Elms, Crewkerne.
 Foy, M. E. Glangar, Birkdale.
 Gent, M. Beechcroft College, Richmond Hill.
 George, A. F. Grosvenor House, Bridport.
 Glasspool, E. L. Drysdale, Bircinton.
 Goetz, D. R. Riverstead, Waterloo, Liverpool.
 Gregory, J. L. Avondale, Croxteth Road, L'pool.
 Grose, L. E. Farfield School, Kidderminster.
 Hall, M. Colston's Girls' Day S., Bristol.
 Hamonet, M. H. Claremont House S., N. Kensington.
 Harrington, E. Masbro' House, Brook Green, W.
 Haynes, L. A. 2 Gordon Terrace, Exmouth.
 Holt, J. Portland Terrace School, Jersey.
 Jenkins, F. E. Croft House School, Wallingford.
 Johnson, S. Dorchester House, Clacton-on-Sea.
 Kestbrook, K. Grey Coat Hospital, Westminster.
 Ledger, G. M. Bexley College, Kent.
 Lepper, C. E. Maidenhead High School for Girls.
 Lewis, A. St. Andrie's, Penarth.
 McGill, M. The Cowley Schools, St. Helens.
 Millar, M. Polytechnic Girls' School, W.
 Mills, M. Ballymodan S., Bandon, Cork.
 Newton, M. Meadowlands, Ashtou-on-Mersey.
 Nixon, M. A. Brandon House S., South Croydon.
 Russell, M. K. Hereford Ladies' College.
 Sargent, V. B. M. Duncan House, Clifton.
 Severn, J. H. Park Hall Longton, Staffs.
 Sides, D. The Coborn School, Bow Road, E.
 Smethurst, S. Westgate House, Peterborough.
 Spinks, E. Elmhurst, Rock Ferry.
 Steer, B. L. The High School, Newport, Mon.
 Stephens, F. B. Woolwich and Plumstead High S.
 Taylor, M. Cambridge House S., Liverpool.
 Thomas, I. S. Girls' High S., Bishopston, Bristol.
 Wilkinson, E. B. Lonsdale House School, Norwich.

THIRD CLASS.—3RD DIVISION.

Cardwell, J. 16 Victoria Terrace, Blackpool.
 Cooper, M. S. Boughton House, Wellingborough.
 Blythe, L. Crescent House College, Bedford.
 Bond, M. Polytechnic Girls' School, W.
 Branton, E. L. Welwick House S., King's Lynn.
 Davis, G. Milford House S., Newport, Mon.
 Drury, D. A. St. Martin's, Lincoln.
 Duckham, R. The High School, Newport, Mon.
 Fenwick, M. F. 22 Victoria Terrace, South Shields.
 Fordham, B. The Ferns, Green Laues, N.
 Fortescue, E. Claremont, Margate.
 Green, C. Linden House S., Market Harboro'.
 Harding, A. E. A. Rushford House School, Longsight.
 Hall, E. S. The Mount School, Banbury.
 Hoffmann, M. E. 6 Reigate Villas, Sutton.
 Horsfall, A. D. Caldecote Towers, Bushey Heath.
 Jennings, C. R. Private tuition.
 King, B. High Street School, Stourbridge.
 Lawson, H. E. Select School, Fife.
 Lingley, M. L. Grey Coat Hospital, Westminster.
 Marks, A. P. Sycamore Hall School, Goldsithney.
 Maund, C. A. Beech Tree House School, Aldridge.
 Monday, M. North Park College, Plymouth.
 Mumford, M. J. Gunnerside School, Croydon.
 Petch, G. Hamilton House, Holloway.
 Pick, L. E. Wandsworth High School for Girls.
 Rackstraw, E. C. The High School, Gravesend.
 Rembges, M. A. I. Grey Coat Hospital, Westminster.
 Rhodes, M. Girls' Grammar School, Keighley.
 Richards, N. M. Warehousemen & Clerks' S., Purley.
 Shurrock, M. M. Highfield, Tarvin, Chester.
 Sturgess, G. M. Camden School for Girls, N.W.
 Sugden, L. M. Kingston School, Hull.
 Tollick, B. F. Gunnerside School, Plymouth.
 Treugrouse, L. C. Mecklenburg House, Putney Hill.
 Tucker, E. M. Caldecote Towers, Bushey Heath.
 Vohman, E. J. The Coborn School, Bow Road, E.
 Wakefield, F. G. Ladies' College, Water Orton.
 Watts, M. L. Gunnerside School, Plymouth.

Balchir, L. E. Warehousemen & Clerks' S., Purley.
 Burrows, M. Grey Coat Hospital, Westminster.
 Byles, E. M. Private tuition.
 Collins, M. E. Acock's Green Coll. S., Birmingham.
 Cooper, K. Henry Street School, Bolton.
 Darch, A. M. Grey Coat Hospital, Westminster.
 Day, M. Larchmount Hall, Yatton.
 Dent, S. D. K. Bexley College, Kent.

GIRLS, THIRD CLASS—Continued.

Driseoll, B. H. Warehousemen & Clerks' S., Purley.
Findlay, L. K. Derwent House School, York.
Francis, V. M. Avonbank House, Bath.
Gill, E. M. Hanover House School, Buxton.
Gregory, A. M. Alpertown College, Harrow.
Hanson, G. St. Agnes' School, East Grinstead.
Hartill, E. M. Private tuition.
Hawkes, K. Summerbrook, Reading.
Hopley, C. Plas Madoc, Ruabon.
Keeton, C. Westgate House, Peterborough.
Knight, M. E. Mount House, Melbourne, Derby.
Malyon, B. M. Stoke Newington High School, N.
McCabe, L. Ballymodan School, Bandon, Cork.
Morris, M. H. Haddo & Westwood Coll. S., Searbro'.
Nelson, C. B. East Southsea Collegiate School.
Parry, L. K. Bryntysilio, Carnarvon.
Powell, F. G. The High School, Hull.
Reading, F. Summerbrook, Reading.
Rich, E. P. M. The Coborn School, Bow Road, E.
Roper, F. E. Ladies' College, Wellington, Salop.
Rust, E. E. Vernon House, Bayswater.
Rutherford, J. Abbey House School, Selby.
Saxty, M. Berwick House School, Bath.
Scott, E. M. Private tuition.
Seager, E. M. The George Green Schools, Poplar.
Smith, A. E. Beech House, Ripley.
Turnham, L. E. Maida Vale College, W.
Walmsley, E. Oak Mount, Burnley.
Wood, E. M. Highfield, Roundhay, Leeds.

Allan, D. Priory Mount S., New Brighton.
Allsop, M. E. W. 9 Kingsgate Street, Winchester.
Attwell, M. L. The Coborn School, Bow Road, E.
Body, M. K. Church House School, Beckley.
Bowden, A. The Grange, Marple.
Brown, E. The George Green Schools, Poplar.
Colegrave, R. Warehousemen & Clerks' S., Purley.
Durant, C. Grey Coat Hospital, Westminster.
Dutton, H. A. Chester Street School, Wrexham.
Dyer, E. Delbury Ho. S., Chippenham Rd., W.
Feltham, M. 28 Castle Street, Salisbury.
Foord, I. Forest Gate Collegiate School.
Francis, G. A. Melrose House, Ashford.
Frost, G. E. Private tuition.
Gayton, K. Camden School for Girls, N. W.
Goodliff, F. Bridge House, East Retford.
Hiam, E. W. Kendrick Girls' School, Reading.
Hunkin, A. B. Milford House, Abergavenny.
James, M. A. Ive Oaks, Chesterfield.
Jarvis, E. M. Branscombe House School, Exeter.
Jones, G. M. Avondale Croxteth Rd., Liverpool.
Maddams, E. L. Camden House, Biggleswade.
Mason, F. Edgeworth House S., Finsbury Pk.
McKellar, M. Abbotsford College, Stroud, Glos.
Medhurst, A. V. Brandon House S., South Croydon.
Nicholson, A. High School for Girls, Farnworth.
Overton, S. E. Kent College, Folkestone.
Phillimore, R. M. Private tuition.
Riley, E. Ladies' Coll., Savile Park, Halifax.
Rowell, E. E. Everard House S., King's Lynn.
Saks, M. Germania College, Canonbury.
Shepherd, E. Newnham House S., Loughton.
Stead, E. Private tuition.
Sydenham, M. E. Fordington Ho. S., Bournemouth.
Trasler, E. S. Sonerville House S., Northampton.
Walker, B. M. Grey Coat Hospital, Westminster.
Watson, M. G. M. Royal Masonic Inst., Battersea.
Wild, G. Bichington Bay College, Kent.
Wood, E. St. Mary's Hall, Brighton.
Woolstan, M. Gravelly Hill High S., Birmingham.

Birch, A. M. Warbreck Coll., Aintree, Liverpool.
Brown, L. L. The Woodroughs, Moseley.
Candler, I. S. Mornington House, Gt. Yarmouth.
Cook, F. Grey Coat Hospital, Westminster.
Corris, E. C. Claremont House, Stockport.
Cox, E. S. Summerbrook, Reading.
Empson, E. M. Private tuition.
Fieldhouse, M. South View, Ironbridge.
Gard, N. Summerbrook, Reading.
Gavey, M. M. M. Grey Coat Hospital, Westminster.
Giles, W. M. Avondale College, Winchmore Hill.
Gorham, A. E. High School, Sittingbourne.
Grant, B. Grey Coat Hospital, Westminster.
Graves, I. M. Private tuition.
Greaves, B. Old Abbey School, Derby.
Harris, F. E. Cambridge Ho. S., Battersea Park.
Harrison, M. L. 1 Manor Terrace, Tynemouth.
Henson, M. A. Queen's College, Acton.
Henwood, L. A. Kendrick Girls' School, Reading.
Horsfield, M. Collegiate School, Morecambe.
Hurt, E. Wallasey Girls' Coll. S., Liscard.
Lyons, M. B. The Ivy House, Malvern.
Macpherson, H. M. Mecklenburg House, Putney Hill.
Medworth, J. V. 507 Commercial Road, E.
Mitchell, J. R. Clevedon Lodge, Reading.
O'Meara, M. Woking High School.
Read, F. M. West Cornwall College, Penzance.
Rowland, M. Woking High School.
Ruttle, M. J. Ballymodan S., Bandon, Cork.
Swain, G. E. Private tuition.
Taylor, E. J. Oriel House, Harpenden.
Tinney, J. D. Highfield College, Chulmleigh.
Wentworth, W. M. Welbeck House, Bridlington.

Angus, B. Stanley House School, Durham.
Caldwell, S. E. Bank House, Over.
Castle, M. E. Ashley House School, Worksop.
Collen, E. M. Burleigh House, Ipswich.
Barrat, A. M. Severn Bank School, Shrewsbury.
Barrett, K. Convent of Mercy, Chelsea.

Barrow, M. M. Buena Vista, Weston-super-Mare.
Bates, A. B. Girls' Grammar School, Halifax.
Bruton, F. Forest Gate Collegiate School.
Davies, E. Henley House, Penarth.
Felton, H. M. Bromley Park College, Kent.
Fendiek, H. B. Grey Coat Hospital, Westminster.
Flower, A. The George Green Schools, Poplar.
Fulljames, E. H. Gravesend Proprietary School.
Gamlen, A. M. Devonport, Stoke & Stonehouse H.S.
Gibbons, R. M. Old Bank House Coll. S., Castle Cary.
Goddard, G. M. Kent College, Folkestone.
Goldsmid, G. Trebovir House, S. Kensington.
Goodman, S. B. Queen's College, Haverstock Hill.
Guy, M. A. Wellington House, Hailsham.
Haden, J. Roseville College, Moseley.
Hall, C. A. Everard House S., King's Lynn.
Heald, A. R. Elwy Hall School, Rhyl.
Heaven, M. B. St. Mary's Hall, Brighton.
Hesketh, M. G. Wenderholme College, Sale.
Holmes, E. The George Green Schools, Poplar.
Jaques, F. M. Darlington High School for Girls.
Jones, L. Summerfield Hall, Maesycwmmer.
Martin, E. L. Elm Lodge School, Leytonstone.
McCrie, I. Victory Terrace, Coatham, Redcar.
Moore, K. A. Ellerker College, Richmond Hill.
Neave, A. Lynton House School, Margate.
Newman, G. D. Camden House, Biggleswade.
Nock, J. H. Ladies' College, Wellington, Salop.
Payne, E. M. Abbey Collegiate S., Shrewsbury.
Rasdale, A. M. Tentercroft School, Lincoln.
Riddington, E. M. Borough Collegiate S., Rotherham.
Robinson, C. M. Park S., H. Broughton, Manchester.
Schofield, D. Crescent House College, Bedford.
Smith, E. Summerland College, Honiton.
Smyth, E. C. Creseent House College, Bedford.
Taylor, A. The Wolverhampton High School.
Teadel, M. E. Wellington House, Gt. Yarmouth.
Temby, M. H. Redbrooke College, Camborne.
Watt, E. Betley Ladies' College, Crewe.
Weatherly, E. M. 36 Grosvenor, Bath.

Aitken, E. J. Boughton House, Wellingborough.
Axtell, E. Beechcroft Coll., Richmond Hill.
Baverstock, M. Woking High School.
Bennett, E. Betley Ladies' College, Crewe.
Berridge, I. C. Collegiate School, Morecambe.
Bishop, H. F. Fairfield House, Watford.
Clarke, E. L. East Southsea Collegiate School.
Curry, F. Darlington High School for Girls.
Drought, E. A. St. Mary's Hall, Brighton.
Hide, E. C. 43 Wenban Road, Worthing.
Inder, L. B. Grey Coat Hospital, Westminster.
Jellis, E. F. Private tuition.
Lambert, E. Haberdashers' School, Hoxton.
Malcolm, W. R. A. T. The George Green Schools, Poplar.
Manfield, A. Woodland House School, Thirsk.
Osborne, S. Brighton House, Edgbaston.
Peacock, C. E. St. George's Hall S., Stockton-on-T.
Pollard, F. E. Havelock House School, Southsea.
Prie, M. Brampton House, Swaffham.
Ryall, B. M. Kenwyn House School, Devonport.
Samson, L. Devonport, Stoke & Stonehouse H.S.
Smith, E. E. Gravelly Hill High S., Birmingham.
Smith, E. M. Waverley College, Stroud Green.
Speucer, E. Bexley College, Kent.
Tampin, M. J. Milford House, Abergavenny.
Timson, M. M. Castle Hall School, Northampton.
Tinner, A. M. Highfield College, Chulmleigh.
Turner, M. A. St. John's College, Brixton.
Tyrer, G. Clarendon House, Topsham.
Wakeford, E. Kendrick Girls' School, Reading.
Wallace, A. Heaton, Newcastle-on-Tyne.
Walton, D. Haberdashers' School, Hoxton.
Warwick, E. M. Grosvenor House, Hornsea.

Anderson, M. B. The Paignton High School for Girls.
Armstrong, E. M. Tentercroft School, Lincoln.
Bagley, I. M. Ladies' School, Needham Market.
Barnett, G. I. Abney Park College, N.
Batty, E. E. Grosvenor House, Hornsea.
Bell, M. Belmont House, Derby.
Blenkiron, D. L. Warehousemen & Clerks' S., Purley.
Brown, E. Betley Ladies' College, Crewe.
Crofton, A. B. The High School, Stockton-on-Tees.
Collins, L. L. Clevedon Lodge, Reading.
Cox, A. Jessamine House, Havant.
Cox, E. L. Forteseue College, Radstock, Bath.
Davis, B. M. Stannmore House, Weston-s. Mare.
Edwards, B. L. The Academy, Chudleigh.
Empson, M. E. Private tuition.
Fletcher, M. Derby Middle Class School.
Garside, E. Plas Madoc, Ruabon.
Heywood, B. L. Highfield College, Chulmleigh.
Hole, E. M. Leighton House School, Minehead.
Hooper, B. R. F. Ladies' School, Ford, Devonport.
Igglesden, M. Melrose House, Ashford.
Jones, E. G. St. David's School, Carnarvon.
Lee, A. E. College House, Coventry.
Lewis, L. Goat Street College, Haverfordwest.
Lister, E. St. George's House, Doneaster.
Lye, A. E. High School, Crewkerne.
Lynch, A. M. M. Belmont House, Derby.
Marsters, M. E. High School, King's Lynn.
Oppenheimer, E. Jewish High School for Girls, W. C.
Orman, A. M. Latimer House School, Southsea.
Richardson, H. Kingston School, Hull.
Rosenreich, E. A. Claremont House S., N. Kensington.
Stace, L. M. Kent College, Folkestone.
Tilly, M. South Street, Dorchester.
Waring, F. G. The Coborn School, Bow Road, E.
West, M. Polytechnic Girls' School, W.

(Adams, C.

Gunnarside School, Plymouth.

Aldridge, E. H. 15 The Crescent, Hipperholme.
Allison, B. St. Agnes' School, East Grinstead.
Boehr, L. Grey Coat Hospital, Westminster.
Brice, M. M. St. Hildred's, Southsea.
Brooks, L. E. Grey Coat Hospital, Westminster.
Burch, C. Grey Coat Hospital, Westminster.
Burge, M. 100 Broadhurst Gdns., Hampstead.
Cathie, M. F. Blandford Lodge, Chiswick.
Cronin, E. Ballymodan School, Bandon, Cork.
Finn, E. 22 Victoria Terrace, South Shields.
Griffiths, E. E. Treecynon Seminary, Aberdare.
Hoare, A. Grey Coat Hospital, Westminster.
James, K. M. Private tuition.
Jones, S. G. Treecynon Seminary, Aberdare.
Judd, A. E. S. Augustine's Coll. S., Kilburn, N. W.
Leith, K. R. The Cowley Schools, St. Helens.
Maedonald, G. E. St. Mary's Hall, Brighton.
Marehant, E. Kendrick Girls' School, Reading.
Morris, F. L. Ladies' College, Ellesmere.
Mullenenx, L. Malvern House School, Birkdale.
Nash, L. A. Newlands, Stoke Newington.
Partridge, E. D. Private tuition.
Payne, A. L. St. Winifred's S., Southampton.
Roberts, M. M. Beach Mount School, Cricketh.
Robinson, E. K. High School, Middlesborough.
Salaman, L. B. S. Vernon House, Bayswater.
Shillington, E. M. Clevedon Lodge, Reading.
Sims, F. Ladies' School, Leigh, Lancs.
Sinkins, G. L. Kendrick Girls' School, Reading.
Slade, A. L. Fairfield, Cotham Park, Bristol.
Steggall, M. H. Whitelands Coll. Upper S., Chelsea.
Tickle, A. T. The Cowley Schools, St. Helens.
Tonkhu, B. Salisbury House S., Plymouth.
Turpin, M. M. Collingwood College, Lee.
Walker, H. M. Lynton House School, Margate.
Wrigley, B. Girls' Coll. High School, Lytham.
Young, F. H. Leigh Bank, Leamington.

Banks, C. The Collegiate S., Buckhurst Hill.
Bolingbroke, A. M. "The Close," Steyning, Sussex.
Boucher, F. M. The Ladies' Coll., Newport, Mon.
Brett, M. B. Carden School, Peckham Rye.
Clark, E. P. Duke Street Girls' School, Bath.
Cockburn, E. Cliff Park High School, Southend.
Connock, J. Holloway College, N.
Curtis, A. M. Eastholme Ladies' S., Lowestoft.
Day, E. A. F. Weirfield School, Taunton.
Deacon, J. Roseberry College, Southsea.
Deller, M. J. Garfield House School, Paignton.
Dunch, L. E. Claremont, Margate.
Evershed, E. M. Montague House S., Weymouth.
Fenwick, E. W. 33 Sion Hill, Bath.
Fife, E. Warehousemen & Clerks' S., Purley.
Gammon, B. E. Clevedon Lodge, Reading.
Green, Florrie. Athole House, Downham Market.
Griffith, A. Milton Mount Coll., Gravesend.
Heinemann, L. Grey Coat Hospital, Westminster.
Hilton, E. Whitelands Coll. Upper S., Chelsea.
Hinton, A. Stoke Newington Rd. High S., N.
Hornsey, A. H. Everard House School, King's Lynn.
Marsh, E. E. A. St. Winifred's S., Southampton.
Mayer, F. A. Park Hall, Longton, Staffs.
Mens, M. Wilton House School, Reading.
Rickard, A. C. Salisbury House School, Plymouth.
Sarson, M. E. Leicester High School for Girls.
Schott, F. P. Whitelands Coll. Upper S., Chelsea.
Slater, F. Lansdowne House S., Llandudno.
Spark, V. W. The Hawthorns, Ealing Common.
Swayne, M. L. Denmark College, Wimbledon.
Wastfield, M. F. Avon House S., Bradford, Wilts.
Williams, F. G. 16 Banks Town, Sheerness.

Abbott, R. Boscombe Home, Bournemouth.
Armitage, C. R. Lewisham Middle Class School.
Borradaile, M. Pahn's Endowed School, Grays.
Burchall, M. The Cowley Schools, St. Helen's.
Cooling, M. J. St. Martin's, Lincoln.
Corris, E. A. Claremont House, Stockport.
Eardensohn, L. S. The Coborn School, Bow Road, E.
Easter, E. D. Mayo School, Gray's Inn Rd., W. C.
Fielding, G. M. Park S., Broughton, Manchester.
Gilliland, M. Edinburgh House, Midhurst.
Haslam, A. M. The High School, Reading.
Hill, K. L. Stanley House School, Durham.
Hipse, A. Haberdashers' School, Hoxton.
Lewis, S. M. Private tuition.
Lindsay, I. Beechcroft Coll., Richmond Hill.
Lloyd, F. S. Giron House, Wolverhampton.
Lloyd, M. R. Froebel House School, Weymouth.
McCubbin, I. M. Burlington Mid. Class Girls' S., W.
Mullar, A. W. London Orphan Asylum, Watford.
Newman, L. M. Oakley High Class S., Southsea.
Owen, D. The Woodroughs, Moseley.
Parker, L. Ellerslie House School, Hull.
Pepper, E. Brookleigh House, Stamford.
Potter, H. M. The Mount School, Banbury.
Preston, M. Burnley Higher Grade School.
Prior, J. Selwood House School, Tettenhall.
Sawdy, E. M. 11 Stopford Place, Stoke, Devonport.
Shorthouse, E. E. High School, West Bromwich.
Slade, L. A. The Elms, Crewkerne.
Stroud, A. L. Napier College, Walthamstow.
Swanton, E. B. Montague House S., Weymouth.
Ware, E. B. Private tuition.
Wildsmith, W. M. Kendrick Girls' School, Reading.
Wilson, E. A. Burlington Mid. Class Girls' S., W.

Ashmore, A. E. South View, Ironbridge.
Atchley, L. E. M. Brean Down House S., Burnham.
Barron, M. J. Somerville School, Nottingham.
Beckett, M. R. U. Private tuition.
Bird, E. H. The High School, Colchester.
Chard, S. L. The Elms, Crewkerne.

GIRLS, THIRD CLASS—Continued.

Coffey, M. Ladies' Coll., Fairfield, Liverpool.
 Cooper, E. Abbey House School, Selby.
 Cotterell, M. E. F. Hanover House, Ryde.
 Crocker, D. South Street, Dorchester.
 Crossley, L. The High School, Dewsbury.
 Davies, J. Private tuition.
 Davis, F. H. L. North Bristol School for Girls.
 Derrick, J. F. The High School, Stockton-on-Tees.
 Dutton, J. W. D. Portland College, Hammersmith.
 Edwards, F. The Queen's School, Chester.
 Felton, E. M. Bronley Park College, Kent.
 Forfeitt, R. Collingwood College, Lee.
 Franklin, E. M. The Paignton High School for Girls.
 Platt, E. Kendrick Girls' School, Reading.
 Price, M. Clergy Daughters' School, Bristol.
 Probert, E. Summerfield Hall, Maesycwmmmer.
 Reed, M. Highfield, Harrogate.
 Ridley, R. M. High School, Crewkerne.
 Rushbrooke, L. H. The High School, Willenhall.
 Shorto, M. L. Colston's Girls' Day School, Bristol.
 Spencer, M. H. Clarendon House School, Kington.
 Tarry, M. Leigh Bank, Leamington.
 Tremellen, T. M. The Wolverhampton High School.
 Tunbridge, A. B. Mornington House, Gt. Yarmouth.
 Vaughau, G. Grey Coat Hospital, Westminster.
 Watson, D. Clergy Daughters' School, Bristol.
 Wheeler, F. M. Private tuition.
 Wood, H. E. Crouch Hill High School for Girls.
 Woolcombe, E. M. Private tuition.

Alderton, E. The Downs College, Herne Bay.
 Baker, H. Derwent House, Whalley Range.
 Brown, A. Grey Coat Hospital, Westminster.
 Butler, W. C. Gibside School, Crewe.
 Caldwell, C. M. Portland Street High S., Manchester.
 Clunn, N. Trebovir House, South Kensington.
 Davidson, J. The Coborn School, Bow Road, E.
 Fekstein, M. E. Wandsworth High S. for Girls.
 Hills, F. G. Rockhill House School, Folkestone.
 Lewis, A. Goat Street College, Haverfordwest.
 Martiu, E. A. Queen's Park College, W.
 Middleton, L. S. Fairfield College, Exmouth.
 Morris, C. C. Wilton House, Chester.
 Newmark, E. Camden School for Girls, N. W.
 Nichols, E. A. Camden House, Biggleswade.
 North, M. M. Everard House School, King's Lynn.
 Osman, L. G. The Coborn School, Bow Road, E.
 Righton, S. Hanover House School, Buxton.
 Sadler, A. E. N. Ellerker College, Richmond Hill.
 Smyth, E. V. Montrose House, Margate.
 Stevenson, M. Argyll School, Leytonstone.
 Tapley, W. M. Devonshire House S., Wineanton.
 Taylor, M. I. Oxford College, Clacton-on-Sea.
 Terry, F. High School, Redhill.
 Watkins, A. J. Summerfield Hall, Maesycwmmmer.
 White, L. Edinburgh House, Midhurst.
 Wiles, D. K. East Southsea Collegiate School.
 Wood, E. M. P. Darlington High School for Girls.

Baker, H. Derwent House, Whalley Range.
 Behr, N. Douthead House, Southsea.
 Clark, M. B. 1 Clyde Terrace, Hull.
 Edwards, E. M. Ashby College, Brockley.
 Fyson, M. E. M. Castle Hall School, Northampton.
 Gill, E. Ladies' College, Torquay.
 Gladman, F. Grey Coat Hospital, Westminster.
 Gough, N. K. Longford Girls' School, Bristol.
 Gray, M. Bond St., Redruth.
 Green, A. Caerleon House, Aberystwith.
 Grinstead, E. Brookleigh House, Stamford.
 Hoare, K. St. Winifred's School, Southampton.
 House, H. Convent S., Queen St., Scarborough.
 Meades, A. G. St. Bernard's, Southsea.
 Murphy, F. S. Private tuition.
 Parrish, E. Heaton, Newcastle-on-Tyne.
 Pinch, E. C. 17 Tavistock Place, Plymouth.
 Playne, A. M. Private tuition.
 Saunders, A. Ely House, Wolverhampton.

Simson, L. D. The Elms, Sutton-on-Trent.
 Smith, A. E. Old Bank House Coll. S., Castle Cary.
 Tratman, E. M. Fairfield, Cotham Park, Bristol.
 Wood, E. L. Ellerker College, Richmond Hill.
 Woodhouse, E. M. The Coborn School, Bow Road, E.

Bergman, F. Collingwood College, Lee.
 Bird, F. A. Strafford House S., Kettering.
 Bligh, J. Forest Gate Collegiate School.
 Carline, A. E. M. Derby Middle Class School.
 Cochrane, A. S. Birkenhead High School, Oxtun.
 Daniell, A. E. W. High School, Blandford.
 Dent, S. E. Kent College, Folkestone.
 Dimond, E. South Bristol Girls' High School.
 Dobson, L. O. Anglo-French Coll., Up. Norwood.
 Ellyatt, G. Linden House S., Camberwell.
 Fisher, L. Collingwood College, Lee.
 French, F. Ch. of England Public S., Gravesend.
 Goodday, G. E. Private tuition.
 Green, A. Girls' Grammar School, Keighley.
 Gregory, E. A. Froebel House S., Weymouth.
 Harris, G. Jewish High S. for Girls, W.C.
 Henman, N. L. Collingwood College, Lee.
 Horgan, E. Ballymodan S., Bandon, Cork.
 Hurst, E. M. H. Girls' High School, Bournemouth.
 La Mothe, A. M. Claremont Ho. Ramsey, I. of Man.
 Le Brocq, E. J. Portland Terrace School, Jersey.
 Lemon, F. The Hollies, Handsworth.
 Maynard, C. J. Highfield, Harrogate.
 Morton, E. The Hollies, Hagley Road, B'ham.
 Smith, L. H. Gravelly Hill High S., Birmingham.
 Smith, S. M. The Hollies, Handsworth.
 Thomas, H. C. St. David's School, Carnarvon.
 Tilley, W. M. Private tuition.
 Wordley, K. C. M. S. Augustine's Coll. S., Kilburn, N. W.

Bessent, B. F. Portland College, Hammersmith.
 Blackman, M. E. Alpertown College, Harrow.
 Bradford, J. M. Castle Hall School, Northampton.
 Deverill, J. C. Middle Class School, Burnham.
 Grisson, C. Haberdashers' School, Hoxton.
 Halsey, M. R. Ellerker College, Richmond Hill.
 Hare, C. K. Whitelands Coll. Upper S., Chelsea.
 Hatcham, G. E. Clarence House, Kennington Road.
 Heague, M. The Coombs, Halesowen.
 Jellis, M. E. Private tuition.
 Laity, L. Sycamore Hall School Goldsithney.
 Lane, E. High School, Bromyard, Worcester.
 Massey, F. M. C. Mayo School, Gray's Inn Rd., W.C.
 Merriman, E. Collingwood College, Lee.
 Mountain, E. B. Grey Coat Hospital, Westminster.
 O'Hara, N. M. Claremont, Margate.
 Peacock, H. E. Scorton Grammar S., Darlington.
 Platts, E. A. Derby Middle Class School.
 Richardson, L. J. Malvern House, Reading.
 Robert, L. L. Bryntysilio, Carnarvon.
 Robson, H. C. 22 Victoria Terrace, South Shields.
 Walter, M. 507 Commercial Road, E.
 Winckworth, E. Bestreben High S., Brondesbury.
 Young, A. St. Mary's Hall, Brighton.

Alliston, L. E. M. Roden House School, Ongar.
 Barker, G. M. Collingwood College, Lee.
 Birch, J. High Street S., High Wycombe.
 Burge, M. A. 100 Broadhurst Gardens, Hampstead.
 Coates, E. M. Huntcliffe House, Harrogate.
 Foote, M. Froebel House School, Weymouth.
 Freckingham, S. J. Whitville College, Nottingham.
 Hawker, E. Girls' High School, Bournemouth.
 Ingham, E. Parish Ch. Mid. Class Girls' S., Leeds.
 James, C. Royal Crescent College, Margate.
 Lewis, C. Summerfield Hall, Maesycwmmmer.
 Needam, G. S. Montgomery Ho., Tunbridge Wells.
 Ritson, E. M. Kendrick Girls' School, Reading.
 Sparrow, K. M. Airedale House School, Gravesend.
 Tindill, H. Westbury School, Scarborough.
 Wheeler, J. Grey Coat Hospital, Westminster.
 Woods, R. J. Ramshill House Coll., Petersfield.
 Wright, E. E. Claremont House, Stockport.

Allenspach, T. The Collegiate S., Buckhurst Hill.
 Blagg, B. Mornington House, Gt. Yarmouth.
 Evans, M. E. A. St. David's School, Carnarvon.
 Harris, G. B. Plas Madoc, Ruabon.
 Hopwood, L. M. Collingwood College, Lee.
 Ive, M. Beecheroff College, Richmond Hill.
 Jones, M. S. The High School, Newport, Mon.
 Marsh, A. Gunberrie House School, Edgware.
 Massingham, A. M. Everard House S., King's Lynn.
 McIntosh, K. The Wolverhampton High School.
 Scott, E. Henry Street School, Bolton.
 Taylor, W. Ladies' Coll., Savile Park, Halifax.
 Tucker, L. I. Claremont House S., N. Kensington.
 White, L. A. G. Claremont House, Stockport.
 Willmott, I. L. Airedale House School, Gravesen.

Abraham, M. The Collegiate S., Buckhurst Hill.
 Austen, S. C. Private tuition.
 Ayres, L. C. A. The Cowley Schools, St. Helens.
 Caister, E. B. Clevedon Lodge, Reading.
 Cobb, A. Collingwood College, Lee.
 Dalton, R. Grey Coat Hospital, Westminster.
 Dodd, I. Private tuition.
 Ellison, B. Haddo & Westwood Coll. S., Scarbro'.
 Finnis, H. M. Private tuition.
 Furber, M. C. Grey Coat Hospital, Westminster.
 Harrington, E. E. Masbro' House, Brook Green, W.
 Hocking, E. Brighton House Coll. S., Oldham.
 Jarvis, C. A. Goole Grammar School.
 Laycock, M. A. Eton House, Sheffield.
 Munford, C. E. Claremont House S., N. Kensington.
 Puntin, F. Belle Vue, Swansea.
 Rowland, N. J. Manor House School, Woodbridge.
 Walker, E. A. Grey Coat Hospital, Westminster.
 Wheller, A. E. Ladies' S., Blue Town, Sheerness.
 Williams, A. S. Summerfield Hall, Maesycwmmmer.

Ansell, F. Chestnut House, Lincoln.
 Cleave, L. M. Warehousemen & Clerks' S., Purley.
 Durbey, L. Greenway House School, Tiverton.
 Dyas, A. E. Shrewsbury Collegiate School.
 Jones, F. E. Longford Girls' School, Bristol.
 Jones, L. M. Westbourne Ho., West Cowes, I. W.
 Miller, N. E. High School, Blandford.
 Pidding, G. E. Margate Ladies' College.
 Pratt, A. M. Ivy House, Bures, Suffolk.
 Read, C. E. Roden House School, Ongar.
 Sessions, H. M. Sidcot School, Weston-super-Mare.
 Small, L. M. Stoke House, Guildford.
 White, L. I. 26 Ashley Road, Hornsey Rise.
 White, O. S. Crescent House College, Bedford.

Aikman, N. Cathedral High School, Cardiff.
 Coulson, A. G. Haddo & Westwood Coll. S., Scarbro'.
 Evans, A. The High School, Newport, Mon.
 Kerridge, M. Ladies' School, Needham Market.
 James, L. Prestbury Mansion S., Prestbury.
 Nye, L. Havelock House School, Southsea.
 Renouf, L. R. Vauxhall House School, Jersey.
 Salter, E. R. Fairfield College, Exmouth.
 Sharpless, M. 314 Romford Road, Forest Gate.
 Toll, M. D. Margate Ladies' College.
 Villers, M. L. Grey Coat Hospital, Westminster.
 Whitfield, F. A. Boughrood House College, Brecon.
 Williams, A. Milton Mount College, Gravesend.
 Wills, E. B. St. George's Grammar S., Plymouth.

[The following obtained Special Certificates, having each obtained a General Certificate at a former Examination.]

Brown, C. M. bk. 26 Ashley Road, Hornsey Rise.
 Harrison, E. E. d. Private tuition.
 Southwell, F. M. d. Finsbury College, Camden Road, N.

NAMES OF CANDIDATES IN THE ABOVE LISTS WHO HAVE PASSED THE ORAL EXAMINATIONS IN FRENCH AND GERMAN.

f = French. g = German.

BOYS.

Alderson, R. f. Newcastle-on-Tyne Modern School.
 Barber, J. W. f. Newcastle-on-Tyne Modern School.
 Barkshire, C. f. Private tuition.
 Bradburn, J. G. f. The Grammar School, Eccles.
 Carr, H. B. g. Crookesmoor Road, Sheffield.
 Carr, R. G. f. g. Crookesmoor Road, Sheffield.
 Chandler, T. R. f. g. Tollington Park College, N.
 Clarke, H. W. g. 43 Walmer Street, Rusholme.
 Cusins, A. F. f. Prætoria House S., Folkestone.

Godwin, G. B. f. Prætoria House S., Folkestone.
 Grierson, W. J. f. g. Tollington Park College, N.
 Grundy, C. S. f. Handel College, Southampton.
 Grundy, J. S. f. Handel College, Southampton.
 Haydon, T. S. g. Tollington Park College, N.
 Hédiard, H. f. Eastbourne Old School.
 Hill, C. E. f. The Grammar School, Eccles.
 Hindley, J. C. f. The Grammar School, Eccles.
 Laurent, G. f. Eastbourne Old School.

Lütticke, E. G. T. g. 7 Sussex Square, Brighton.
 Mather, T. H. f. g. Newcastle-on-Tyne Modern School.
 Muter, A. H. M. g. Private tuition.
 Petit, F. f. g. Castle Hill School, Ealing.
 Routledge, E. B. f. g. Prætoria House S., Folkestone.
 Thomas, J. L. f. g. Prætoria House S., Folkestone.
 Varwell, J. H. g. High School, Fairfield, Liverpool.
 Volz, K. A. f. g. Anglo-German School, Brixton.

GIRLS.

Arundel, E. D. f. g. Clarence House, Filey.
 Bagnall, L. D. f. Ellerslie Ladies' S., Bromsgrove.
 Blacker, M. B. f. Fern Bank, Wandsworth Common.
 Boon, G. E. f. 43 Walmer Street, Rusholme.

Boon, M. f. 43 Walsall Street, Rusholme.
 Brüchert, M. g. Moseley Ladies' College.
 Campbell, C. M. f. Private tuition.
 Creswell, E. M. g. The Hollies, Handsworth.

De Costa, E. f. g. Convent of Loreto, Hulme.
 De Ugarte, M. f. g. Convent of Loreto, Hulme.
 Evans, E. H. f. Fern Bank, Wandsworth Common.
 Gaylard, I. M. f. Red Maid's School, Bristol.

GIRLS—Continued.

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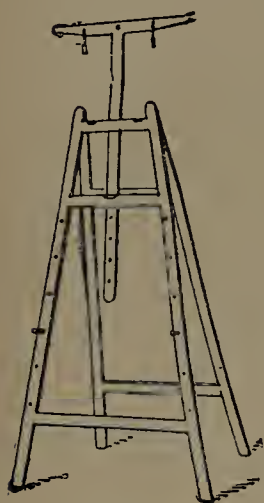
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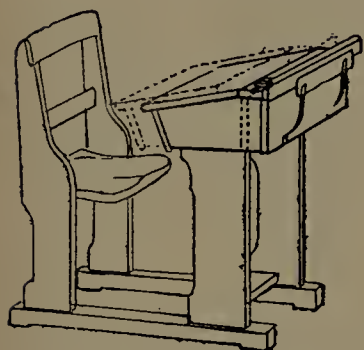
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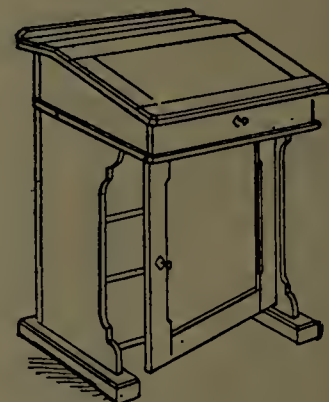
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The next Monthly Evening Meeting of the Members will take place on Wednesday, the 15th of March, when Professor H. G. SEELEY, F.R.S., will read a Paper on "The Teaching of Commercial Geography."

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For Syllabus, see page 130.

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CERTIFICATE EXAMINATION, Midsummer, 1893.**—Notice is hereby given that at the forthcoming June Examination, *Cicero de Senectute* will be included in the list of Latin books set for the First Class.

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III.—The Child as Developing—Bodily and Mental Growth as aiding and as limiting one another—Mental Development as ruled by Law—Development of the Race-Mind and of the Child-Mind—Complex of Conditions necessary for Development—Normal and Abnormal Forms of Development—How the Community acts upon the growing Mind of the Individual—Education as a methodical Control of Development.

IV.—How the Child first comes into relation to External Things—The Senses and their Importance in Early Life—Mechanism of the Senses—Passive and Active Side of Sense: Exploring Things—Gradual Fixation of Sense-Impressions by Attention—How Impressions grow distinct and familiar—Effects of Exercise in improving Sense Capacity—The Hearing and Touching of the Blind.

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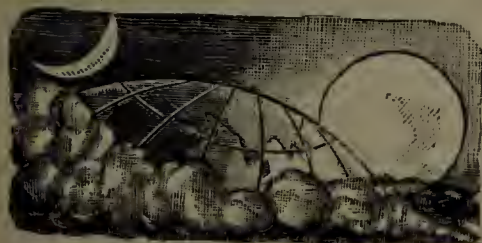
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EVENING MEETING, FEBRUARY 8TH, 1893.

The Chair having been taken by W. BROWN, Esq., B.A., Professor W. H. H. HUDSON, M.A., read the following paper on

THE TEACHING OF MATHEMATICS.

It is not my intention to-night to discuss at any great length the reasons for the study of mathematics. Even the most uncompromising opponent admits, nay, is "decidedly of opinion that mathematics ought to be cultivated, to a certain extent, by every one who would devote himself to the higher philosophy."* The common consent of mankind has decided the question in favour of teaching mathematics; disregarding the opposition of those few who, in ignorance and unbelief, regard either the subject itself or the manner of teaching it as unimportant, we who, rightly or wrongly, have got to teach mathematics are here to take counsel together how we may best do the duty that is set before us. Nor do I propose to consider the quantity of mathematics that ought to be taught, nor the relative importance of these subjects compared with other studies. But I wish to recall your attention to the principles upon which mathematical teaching should be conducted. If I state my opinions positively, perhaps even dogmatically, it is not from any affectation of superiority, but because that is the easiest way of stating them that they may be understood and criticised.

I shall draw my illustrations from the teaching of elementary mathematics, arithmetic, geometry, and algebra, because these are the parts of mathematics in the teaching of which more of us have experience, and also because the manner of teaching them is vastly more important than that of the subsequent teaching. If they are not taught well, they will certainly be taught badly; it is almost impossible to protect a child from all teaching on these elementary subjects. And the higher subjects cannot be taught at all unless the elementary are taught well.

The earliest teaching of arithmetic begins slightly before a child can speak, and is usually carried on far too rapidly as soon as he obtains the use of his tongue. The earliest teaching of solid geometry should begin as soon as a child can play with a box of bricks; of plane geometry a few years later, when he can wield a pair of compasses. This teaching is often deferred too late. The earliest teaching of algebra occurs some years

later still, when considerable facility is acquired in the use of the pen, or at least pencil, and when the child, if a boy, has probably come under masculine influence.

Now all teaching, as Aristotle points out, is based on previous knowledge.* Our teaching of mathematics is based on this early teaching which we do not give. It is a strong argument for the improvement of the education of women of all classes that the early education of all children is almost entirely in their hands; the importance of this early education can scarcely be overrated.

All mathematical teaching should be conducted so as to accord with the fundamental laws of pedagogy; of these the one which is the first in importance is this: *The understanding of the pupil is to be employed throughout.* This is a general canon of all teaching; it is especially needful to be observed in mathematics. Progress in mathematics is peculiarly hampered by the substitution of memory and imitation for understanding. The multiplication table is often learnt by heart, parrot-like, and sung as a song, instead of being formed gradually by the child. Definitions and propositions of Euclid are learnt verbatim in like manner. Formulæ are allowed to be used without being understood. Methods of doing sums are justified solely by the consideration that the answer comes right. "Shut your eyes, and write down your equations," is the advice said to have been given by a coach. All this is wrong; it is contrary to the first law of teaching; it is calculated to stunt instead of to develop the mental powers. Principles, maxims, theorems, formulæ, definitions should never be given to a learner without his intelligent comprehension of them, under the notion that they thereby obtain a firm place in his memory.†

"Fas est et ab hoste doceri." Listen again to Sir William Hamilton: "The highest end of education is not to dictate truths, but to stimulate exertion, since the mind is not invigorated, developed, in a word, *educated* by the mere possession of truths, but by the energy determined in their quest and contemplation."‡ Still less is it educated by the mere possession of words.

It is just because mathematics afford a particularly convenient opportunity to the young child of exerting and thereby invigorating its mind by the quest and contemplation of truths new to the learner, that mathematics form an important part of the early education of every boy and girl.

Reversing the dictum attributed to Mr. Bain by M. Compayré, "the best education is" *not* "that which places items of knowledge side by side in the mind, which accumulates facts there, but that which seeks to enkindle in the soul a flame of intelligence."§ This is just what mathematics are capable of doing, and it is an almost sinful perversity to teach mathematics as a mere effort of unintelligent memory.

The amount and the duration of the mental exertion necessary for the study of the beginnings of mathematics, admit of being graduated to suit the powers of the pupil however young. To count the number of chairs in a room is an exercise suitable for an infant, and would occupy a minute. A boy may have three or four sums to do which will occupy him a quarter-of-an-hour. The beginnings of mathematics are entirely mental; no sitting at a table, crouched in an awkward attitude, is needful for an arithmetic or geometry lesson in the kindergarten.

Mathematics are, therefore, a peculiarly fit means of awakening the intelligence and developing the incipient reasoning faculty. They strengthen the mind, and give power—power to be used instantly in other studies, and later, in the conduct of life.

In order to make mathematical teaching accord with the first law of pedagogy, the bad methods of teaching, to which I have alluded, should be discontinued. On the contrary, the teacher should strive to—

"Give both life and sense,
Fancy and understanding; whence the soul
Reason receives, and reason is her being."||

Accordingly, the mind of the pupil must be active during the whole process of study.

The fact is, no teaching is possible without the active co-operation of the learner. Learning may go on without teaching but not teaching without learning. A man can refuse to teach, but he cannot insist on teaching. The desire of the pupil to learn is a necessary condition of all teaching. If the will of the

* Ethics, Book VI., Ch. 3.

† In opposition to Bain, "Education as a Science," p. 206.

‡ Note on Dr. Whewell's letter.

§ "History of Pedagogy," Payne's Translation, p. 561.

|| Milton, "Paradise Lost," V., 487.

* Sir W. Hamilton, *Edinburgh Review*, Jan. 1836.

pupil is antagonistic, he cannot be made to learn. Young people generally naturally desire to learn; others are induced by the personal influence of the teacher; much may be due to the contagion of companionship, a good tone in a school or college. Somehow or other the goodwill of the pupil must be secured in order that he may direct his mental activity to the study. How to secure that goodwill in the cases where devotion to athletics, or other causes, has alienated the mind from the desire of knowledge, and the habit of studious inquiry has never been formed, is the greatest difficulty with which those whose pupils have passed the stage of childhood have to deal.

The active exercise of the mind is fatiguing; therefore lessons should be, for the young, short, and because short, frequent. The pain of fatigue is soon overbalanced by the joy of success; moreover, the pain diminishes as the mental powers increase; nay, even it is turned into a pleasure—a pleasure in the quest as well as in the attainment—"labor ipse voluptas."

In no subject better than in geometry can the joy of the discoverer be obtained. It is possible to propose to the veriest beginner problems suited to his nascent powers, yet requiring their exercise; while the finger-work necessary for the careful construction of the diagrams, which should be insisted on, affords a relief from the mental effort of discovery. This educating power of geometry is lost by those who set propositions to be learnt by heart.

Some of the propositions of the first book of Euclid will seem to be quite unnecessary to a child who has had a preliminary training in the actual use of the ruler and compasses. Here a fresh difficulty will arise—a difficulty welcomed by the teacher as the opportunity for instruction in the nature of proof; fallacies may be propounded and exposed, and so early ideas of logic may be instilled, but without the uncouth technical terminology of the logician.

What are called "riders" should be used from the very outset; nay, even the propositions themselves should be primarily regarded as riders, the text being consulted only after a real effort, successful or unsuccessful, has been made to do without it. To facilitate this beneficial exercise, I submit that it may be pardonable to tell the beginner, as facts to be hereafter proved, some properties, such as that the three angles of a triangle are equal to two right angles, or that the angles in the same segment of a circle are equal, for the sake of proposing to him some simple deductions from these theorems.

Nor is it to be regarded as a detraction from the merit of this part of our teaching that, as Mr. Todhunter says, "when we propose a deduction to a beginner we give him an exercise, in many cases, that would have been admired in the vigorous days of the Greek geometry"; and, "it is not absurd to maintain that Euclid and Apollonius would have regarded with interest many of the elegant deductions which are invented for the use of our students in geometry."*

In order to assist to develop this necessary exercise of the pupil's understanding, it is a good maxim that the teacher should not do for the pupil what the pupil can do for himself. Self-reliance should be cultivated. But the learner is not to be left quite in the position of the first discoverer. The use of the teacher is to guide, to direct, to warn against dangers, to give a helping hand in different places, and so to facilitate progress, but the pupil must make that progress himself. The guide chooses the path and prevents the wrong road being taken; he may help over rocks, but the traveller must walk along the meadow unassisted. A mistake may be pointed out and wherein it consists; the correction should generally come from the pupil.

The teacher should not set, and should restrain the pupil from proposing to himself, exercises that are beyond either his strength or his knowledge. To strain the mental powers is not to develop them. Here much judgment is required in the teacher. In many cases it is not power or knowledge that is deficient in the pupil, but strength of will.

Secondly. There is a certain way in which the human mind naturally acts, and this cannot be departed from without injury. There are those who contend that the order in which an individual learns should be that in which the race as a whole has acquired knowledge. Whether this is true in all cases we may be permitted to doubt. But as much as this is certainly true, that the earliest knowledge of the child, like that of primitive man, is derived from the senses. And it is equally true, whatever some philosophers may say to the contrary, that the primary notions of mathematics are acquired through the senses. It is simply

impossible to acquire them otherwise. There is, therefore, a certain Law of Sequence, which requires that what is called the abstract idea or notion, should be based upon and formed out of sensible perceptions. It is usually quoted, "The concrete must precede the abstract." It is, moreover, a breach of this Law of Sequence to stop short at the sensible perception and not to pass on to the generalization.

In order to comply with this law we should begin to teach arithmetic with actual things to count. Counting is sometimes made to consist of a rehearsal of the names of numbers. This is a mistake from the consequences of which some people recover with difficulty. Visible illustrations of the properties of fractions should be used. Actual weights and measures should be seen and handled. We should begin to teach geometry by tangible models of cubes, spheres, cylinders, cones: the pupil should actually rule lines with a ruler, and draw circles with compasses.

But we should not continue the use of these visible and tangible helps after they have served their purpose. The notions or ideas should be formed so strongly that the mind's eye sees them when the things are not present in later reasonings about them. In fact, the things themselves—the line without breadth, the perfect circle—from their nature cannot be present; the best we can obtain is only an approximation, valuable as an illustration and as a means of acquiring ideas, but no more. Even a badly-drawn circle will serve a person who knows what a circle is, but he cannot acquire the idea of a circle from badly-drawn circles. He who can draw a good figure need not, he who cannot draw a good figure must. The badly-drawn circle does not give a wrong impression to the mind which is full of the true idea of a circle, the mental conception being stronger than the visual image; whereas a badly-drawn circle retards the acquirement of the conception of a circle by one who has never acquired it.

We must be careful also not to carry this requirement of sensible objects too far. It is not necessary to make visible or tangible models of all figures; one who has a knowledge of a triangle, a square, a pentagon, a hexagon, may form a sufficiently accurate idea of a heptagon or a decagon without drawing it, still less is it needful to draw a figure of 20 or 30 sides in order to form a mental conception of it. It is a valuable mental exercise to form such images, but they are formed out of elements primarily acquired through the senses. We build castles in the air out of the images of the battlements and turrets of real castles; but no one can combine ideas that he has not got.

Progress in mathematics consists in the combination of comparatively few fundamental conceptions. To substitute words for these conceptions is to prevent the possibility of progress. Words, however, have a very real part to play in our teaching, for it is also a part of the Law of Sequence, that when a general idea has been formed, then, and then first, should a name be given to it: this is quoted as "the thing before the name," thing meaning an object of thought, not necessarily a material thing, and in algebra the name may be a sign.

I fear we often offend against this law. Do not some of our pupils gabble through the first book of Euclid without really knowing the meaning of "bisect," because they have never made an effort to bisect anything, or the third book without knowing the meaning of "touch," although the verbal definition of this term has been committed to memory? Such boys who have merely learnt by rote phrases meaningless to them, not only fail to derive advantage from the study of geometry, but by becoming habituated to the use of words without meanings have weakened their mental power, while they have lost the natural curiosity of childhood which should have been utilized to impel them to intellectual effort: thus—

"Shades of the prison-house begin to close

Upon the growing boy,"*

too soon, before their time.

The neglect of the natural sequence of mental activity, namely, first the appreciation of the sensible object, then the mental visualization, finally the abstract generalization to which a name is given, may well be thought of as the great cause of stupidity. As the power of the mind grows by its natural use, so it diminishes if disused or abused. "Whosoever hath not, from him shall be taken away even that he hath."† "We never saw," says a well-known author, "a stupid infant."‡ It may be that the stupidity of boys is due to our neglect of this canon of teaching.

* Wordsworth, "Ode on Intimations of Immortality," v.

† Matt. xiii. 12.

‡ De Morgan, "On Teaching Arithmetic," Q.J. Ed., No. ix.

* "Conflict of Studies," pp. 10, 11.

The next general law of teaching that we must observe is that of *continuity*. That which is new and unknown should be made to grow out of that which is old and known. Evolution is true in the mental as in the physical world. The particular case prepares the way for the general, the easy for the difficult; the difficulties, even the impossibilities, are the avenues leading to new knowledge: thus, vulgar fractions arise out of division, the negative quantity grows out of a seemingly impossible subtraction, logarithms arise out of the general index, the arithmetic of square measure is derived from the geometry of the rectangle.

The subdivision of mathematics into separate subjects tends to obscure the connexion between them. We should be watchful to seize opportunities of bringing out, whenever possible, the connexion of algebra and arithmetic, and of both with geometry. Even the illustrations that we choose to explain a particular point are all the better, sometimes, if they are seen to be connected with the next.

In order to preserve this continuity, it is essential that the old, the known, must be soundly known and firmly grasped. The pupil should have to unlearn nothing as he advances. The earlier teaching should be designed so that the later can be easily joined on to it. On this account it is desirable that the teacher should have a grasp of subjects beyond what he is actually teaching, that he may prepare the way for the future. It is a mistake to ask an ignorant teacher to take an elementary class.

Thus the teacher of arithmetic should be watchful to assist the transition to algebra, and the teacher of algebra should frequently bear in mind the subsequent study of the Differential Calculus.

In arithmetic, subtraction should be taught as a shopman gives change, because this smooths the way for the improved long division. The highest digit of the multiplier should be used first in the multiplication of whole numbers, because this facilitates the approximate multiplication of decimal fractions. Arithmetic may be taught so as to prepare the student to pay regard to dimensions in mechanics, and in the treatment of circulating decimals either sound ideas may be given, facilitating the acquirement of the important doctrine of limits, or confused ideas may be allowed to be formed retarding the pupil's progress and throwing additional difficulties in his way. It were better not to touch this part of the subject at all than to do this; in fact, in accordance with the first law of teaching, if the subject is beyond the pupil's comprehension the teaching of it should be deferred. The particular instance quoted, however, is quite intelligible at a much younger age than is often supposed.

Mathematics are sometimes thought to require operations of the mind different from those employed in other studies.* It is said not to encourage the art of observation. As we all know, this is not the case. The teacher should take opportunities of exercising this faculty, and should ask his pupils to notice distinctions, and when they have discussed these distinctions and described them by a clumsy periphrasis, when the *thing* has thus become known, the name "binomial," "homogeneous," or whatever it is, may be given: there are many opportunities for lessons in classification based on observed distinctions.

Another common mistake is to suppose that mathematics do not admit of reasoning from analogy; on the contrary, the good teacher bases his pupils' apprehension of mathematical method upon the analogy which he guides them to observe in the mode of solution of similar problems.

Inductive reasoning is also said not to appear in mathematics. On the contrary, the mathematical teacher will often lead his pupils by particular examples to guess by induction a general formula, and then he will be able to shew them how to verify their guess, and ascertain whether their induction is justified. They will sometimes guess wrong, and thereby learn to distrust an unverified induction.

The use of experiment to ascertain whether a proposed theorem is likely to be true, is another instance of the application of a mode of investigation often thought to be foreign to mathematics.

Another subject most intimately connected with mathematics is language. One of the aspects of algebra and the differential calculus is distinctly linguistic. It is a valuable exercise for the pupil to translate his symbols into the English language. Clear and exact language is requisite in order to state mathematical problems, and the necessity of using it constitutes one of the

difficulties of the learner, but it is a difficulty in the overcoming of which mathematics give much of the intellectual benefit which is supposed only to be derived from the study of a foreign language. The power of stating a physical problem in the language of the differential calculus is an acquisition worth having, even if the subsequent solution of the problem is at present impossible.

After the three great laws of teaching, the Law of Understanding, the Law of Sequence, and the Law of Continuity, some minor maxims may be adduced.

(1) *Principles are more important than methods and formulae.*

Mathematics are built upon a certain number, not very large, of axioms and conventions. The axioms give rise to no difficulty, except to the metaphysician; all believe them as soon as they understand the language in which they are expressed; but it is necessary for the teacher to see that the pupil does understand this language.

The conventions must be laid down authoritatively; the pupil must, here as elsewhere, understand what they mean; but he is not, in most cases, an adequate judge of their propriety. He will often think them inconvenient and improper; but he is not in a position to set his judgment against that of the scientific world.

A pupil may think, and, judging from what I have seen, many seem to think that the absence of a sign between two letters ought to denote addition instead of multiplication, that $a b$ should mean a and b and not a times b . An algebra could no doubt be built up with this convention instead of the usual one. We will listen to any qualified person who may develop such an algebra, and show us, if he can, its greater convenience. But we will not listen to our pupils, who are not qualified. We may try to give them some reasons for the convenience of the notation we ask them to adopt, but we cannot be sure that we can convince them; for they have not the knowledge, even if they have the power, to form a judgment on the question.

We should not disguise from them, however, that this is a convention, the convenience of which we ask them to take upon trust from us. We do wrong if we lead them to think that these conventions are on the same footing of necessity as axioms. I fancy that a mistake of this kind is sometimes made in the early teaching of arithmetic. If we allow our pupils to believe that 12 must mean twelve and could not possibly mean seven or ten, we confuse in their minds the distinction between the necessity of axioms and the arbitrariness of conventions.

Upon axioms and conventions are based certain doctrines which we call *principles*, such as the fundamental propositions of algebra. These principles, few in number, in their turn form the bases of methods and processes innumerable.

To teach each of these latter separately without system or co-ordination is an impossible task; the task of teaching mathematics is rendered feasible by referring to general principles. This should be done, not only at the outset, but also whenever mistake or misunderstanding occurs. A mistake, other than a mere slip to which all are liable, generally implies a misunderstanding or confusion about some fundamental principle; for its correction the fundamental principle should be referred to.

The object of teaching being to give power, not merely to impart a knowledge of facts, or facility in the conduct of processes, a mistake which shows a defect of reasoning at some point, whether in the understanding of the principle or in the application of it—even slips arise from a momentary eclipse of the reasoning faculties due to a want of concentration—such a mistake should be made the opportunity of endeavouring to give a firmer grasp of fundamental principles, so as not only to prevent the same or similar mistakes in future, but even to prevent dissimilar mistakes by strengthening the mental power.

Methods, therefore, do not constitute arithmetic, nor is algebra a system of formulae; behind these are the general principles of the subject: these are not only the first notions derived by intuition from experience, but they include certain intermediate doctrines gathering up in the compass of a few propositions a vast and bewildering multitude of particular applications.

In any special case what the learner has to do is to select and combine the appropriate principles: this is the valuable exercise; the power of doing this is freedom, the mere following out of a process prescribed by rule, is slavery. Nevertheless, there are methods and processes so important as to deserve especial attention; these the learner should be guided as far as possible to discover, or, at least, make his own, by intelligently perceiving how they flow from the general principles of the subject. Methods and formulae have, therefore, a place, a true place, in arithmetic

* "Of observation, experiment, induction, analogy, the mathematician knows nothing." Sir W. Hamilton.

and algebra, a place in subordination to principles, useful when superfluous, mischievous when necessary.

Another maxim is—(2) *Make slow progress with firm steps.* Mathematics admit of being so minutely subdivided, that the steps can be accommodated to the stride of the pupil. No pupil should be asked to take a step that is greater than his stride, but he should be asked to take his step firmly, and the teacher should ascertain that each step has been firmly taken before proceeding to the next. It is not desirable, especially in the beginning, that many steps should be taken in one lesson; the subsequent pace will be all the greater for initial slowness. New ideas require time to dwell in the mind in order to take root there; they need to be reinforced by exercise and application. Moreover, the young are not capable of the sustained attention requisite if much is attempted in one lesson. Mathematics, especially geometry, though requiring concentrated attention, need not, in its early stages, demand a prolonged effort; this is one of the circumstances that makes geometry so peculiarly valuable for early training. The same is true of the beginnings of arithmetic; care must, however, be taken, by cross-examination, to ensure that verbal memory does not conceal ignorance of principle. Algebra needs more prolonged attention, and is, therefore, studied after the powers of the mind have been strengthened by geometry and arithmetic.

At the age at which numbers are first learnt, one number is sufficient for one lesson, but then something more about it than its name should be learnt; for instance, when we come to 1 more than 9, the child should be taught not only that its name is ten, but should be guided to find out that it is $2+8$, $3+7$, &c., that its half is 5, its fifth part 2, that it is $3 \times 3 + 1$, and so on. In this way, though the number twenty may be slowly reached, a far sounder basis of arithmetic may be laid than by teaching the child to count to a hundred, and the difficulties of notation and of vulgar fractions will be well-nigh smoothed away.

Again, in the commencement of geometry, one definition or one proposition may be ample for one lesson: this will require but a very short time; this time may be employed in a way to develop mental power in a manner which a whole book learnt by heart is incapable of doing.

Although slow progress is to be recommended in the inception of mathematical study, some progress should be made each time, something new should be taught each lesson; the tortoise, however slow, constantly moving, comes to the goal at last. The practice of keeping a pupil back until he is what is called "perfect" in what he has been already taught, is one not to be commended. Exercise on what has been learnt must be done to emphasise what has been taught, to enable the pupil to feel that he understands, and to assure the teacher of this fact; but it is not necessary that the pupil should acquire such facility as never to make a mistake before proceeding. The higher parts of arithmetic and algebra themselves afford exercise in the lower.

Nor is the practice of setting a number of exercises all precisely alike in method and difficulty one to be commended. It cultivates a dull, mechanical habit, tending to divorce the understanding from the work of the student, and is thus contrary to the first law of teaching. Exercises should rather be arranged on the plan of a ladder, each perceptibly rising, in some minute particular it may be, above the preceding. The rungs of the ladder may, and for some pupils must, be placed very close together. Examples should be employed in order to guide the pupil to discover a method that is not yet known to him. These can scarcely be too simple; they should be first oral, afterwards written. Successive examples almost identical may here be used to facilitate the pupil gathering for himself what the method is—making his own rule, in fact. After the method is once grasped, as much variation should be thrown into the examples as the knowledge and power of the pupils permit.

The next recommendation I will make is—(3) *Vary non-essentials.* In geometry, for instance, change the letters of the diagram, invert the diagram as to right and left or up and down, or place it askew; take care that it does not illustrate only a particular case. Vary the language of explanation; do not permit a reproduction either of your own phrases or those of the book; encourage the pupil to use his own language. It is not a real knowledge that can only find expression in a set form of words. In arithmetic sometimes use vulgar, sometimes decimal fractions in the same sort of questions; in explaining local value, do not adhere to the scale of ten. In algebra we should not confine ourselves to the use of particular letters, and we should guide our pupils to see that the general propositions of algebra

are true for expressions of any complexity. It seems superfluous to emphasize this direction, but experience tells me that it is needed. I have known a pupil who thought he knew that $(a+b)(a-b) = a^2 - b^2$, puzzled by $[\sqrt{1+x}+1][\sqrt{1+x}-1]$, not realizing that a might be $\sqrt{1+x}$. Is it not also a common mistake to "cook" quadratic equations so that they shall always have rational roots?

We should ever be ready to invent new plans and systems of teaching; there is a great charm in novelty, and many little devices succeed for a time just because they are new. A system when old and stale, even if intrinsically better, is often not so efficacious as an inferior one when new.

This leads to the next piece of advice—(4) *Make a programme, but don't be a slave to it.* It is well for us to make a programme, and to consider beforehand how much we mean to get through in a term or in a lesson. But, as the unforeseen always happens, our system should be sufficiently flexible to permit of variation.

Moreover, but this I put forward with some uncertainty, there are occasions when the interest of our pupils is particularly excited, when they are capable of more vigorous or more prolonged attention than usual; may we not take advantage of these opportunities to go ahead of our programme, even to take something out of its natural order, to strike while the iron is hot? I perceive a danger in this—the danger of desultoriness. Cool reason would seem to say that our eager pupil must be told that now is not the proper time to treat of the subject in which he is at the moment interested. But such a snubbing is apt to destroy his interest altogether, so that it will not be forthcoming at the right time. It is entirely a matter for individual discretion when and how far to vary a programme that has been thoughtfully planned. All I say is that it must not be regarded as invariable. The variableness by no means neutralizes the advantage of having made it.

All the earliest teaching, and much of the later, should be oral. Oral and written teaching have each their peculiar advantages and peculiar difficulties. Oral teaching should be mainly catechetical; the sermon style is quite unsuited to mathematics. The persistent silence of a solitary student is sometimes too much for the eagerness of the teacher, and he may be thereby induced to make the mistake of telling the pupil what the pupil is capable of finding out for himself. Telling is not teaching. It is an advantage of correspondence teaching, which somewhat mitigates the grave defects of that mode, that the pupil is compelled to produce something for himself. Again, a class, especially a class of girls, is sometimes only too willing to let a forward pupil answer for all, and there is considerable difficulty in inducing some of them to speak. It may be wise in such a case to make the timid pupil begin by repeating the answer of her companion, and then to require her to put it into her own words.

The common practice of the elementary schoolmaster of so framing his question that it requires but a single word to answer it, is one against which I must protest, although it is so general as to induce the belief that it is prescribed by authority. In my opinion this practice deserves to be suppressed like the other "missing word" competitions.

In the oral teaching of arithmetic, the teacher should seldom be satisfied with the right result; he should ascertain how it has been obtained. Possibly it has been obtained in a sound though clumsy manner; perhaps by performing mentally the process which would have been written down. In these cases a further lesson is needed. The methods appropriate to mental arithmetic are not those commonly used in written. The right result may be a mere guess, or it may have been whispered by a neighbour. Not only in spoken, but also in written arithmetic and algebra, the answer is the least important part of the matter; but it is absolutely necessary that the answer should be right. The habit of attending to the answer only should not be formed either by teacher or pupil. The worship of the answer is idolatry.

The greatest difficulty of all is the want of desire to learn; this has been alluded to. When it takes the extreme form of the hatred of knowledge* for its own sake, it is simply insuperable. Why people should not want to learn mathematics is a question that would carry us too far from our subject, which is how to teach, and to avoid mistakes in teaching those who do want to learn. A main difficulty arises from that chain-like connexion of the parts of mathematics which, properly employed, facilitates

* Proverbs i. 22, 29.

the learning of it. A weak link in the mathematical chain breaks under the stress that the attempt to make further progress imposes upon it. A student, for instance, who has been allowed to use the sign — without understanding it, who has been contented with a mere "rule of signs," can never be trusted, can never trust himself, not to trip in the use of it. Consequently, he cannot follow a blackboard demonstration, cannot simplify expressions correctly, is perpetually hampered by what he thinks are trifling mistakes, mistakes primarily due to a want of proper attention to signs when he was first introduced to them, and his infirmity is now rendered difficult to correct on account of that very familiarity with the signs which, in accordance with the proverb, prevents their receiving respectful consideration.

One who has never understood thoroughly the relations of length, area, and volume, experiences exceptional difficulties when the more complicated notions of mechanics are presented, involving the further conceptions of time and mass. It is a cruel thing to teach a person arithmetic without giving him the advantage of a rational study of square and cubic measure, or to limit his geometrical teaching so as to exclude the discussion of similar figures.* A valuable training is missed, and the want of this knowledge seriously impedes, nay, even sometimes entirely prevents further progress. All that has been said of the usefulness of so teaching the early subjects as to prepare the way for the later, may be repeated as causes of difficulty in teaching the later subjects when the way has not been so prepared, and of still greater difficulty if the earlier subjects have been so taught as to obstruct the acquisition of later ideas.

A practical difficulty is sometimes the infrequency and length of the lessons; what is wanted for young beginners in mathematics—I suspect that it would be best for all subjects—is frequent short lessons. Some pupils get, say for geometry, two hours a week; now, if this were in four lessons of half-an-hour each, or even six lessons of twenty minutes each, progress would be rapid and the time would be ample; but when it is in two lessons of one hour each, much of the time is necessarily wasted on account of the incapacity of the pupils for prolonged mental exertion. There should be short lessons with full attention.

* Another difficulty of mathematical teaching arises from too great dependence on text-books. The order in which a writer groups the various parts of the subject, is not always that in which the learner can most easily assimilate and digest the matter. Oral teaching overcomes this difficulty, which is one of the more advanced rather than of the elementary teaching, for the schoolboy rarely reads a text-book.

I will conclude with a few words on *Examinations*. It will probably be argued against me, that the rational teaching I have recommended may be all very well in itself, but it "won't pay" in examination. To those who are inclined to hold this opinion I would say, Make the experiment. After a fair trial, sufficiently long continued, see if boys and girls, whose understanding is kept alive during the whole of their lessons, who are never taught names that do not correspond to ideas in their minds, nor to learn by heart what they don't understand, who are taught to refer to fundamental principles rather than to imitate processes in arithmetic and algebra, who are taught to regard geometry as a chain of reasoning that they are expected to understand and to use for themselves—see if such pupils do not utterly defeat in any well-ordered examination the pupils whose only idea of learning is learning by heart.

Nevertheless, examinations may be so conducted as to oppose the efforts of the teacher. A paper in geometry, for instance, which consists of nothing but bald propositions, without the slightest variation in their statement from that of some accepted version of Euclid, is certainly very discouraging to intelligent teaching. I think we should make earnest efforts to get examinations of this class improved. I beg your sympathy for the efforts that the Association for the Improvement of Geometrical Teaching is making to induce Oxford to improve these papers.

The best examinations are those in which there is active concert between the teacher and the examiner. The teacher should prescribe the character of the examination, and the field over which it extends; the actual questions proposed are all the better for being somewhat different from those to which the pupils have been accustomed.

The real answer to the objector who maintains that teaching confessedly bad must be adopted in order that the pupils may pass examinations, is that it is, or ought to be, no concern of

ours whether the pupil passes or not. Where we have the power of withholding the pupil from the examination, we should exercise it whenever we know that he does not know his subjects. Where we have not the power, we are not responsible. It is not the examination so much as the preparation for it that is at fault. Examinations are good, if we do not prepare for them.

What we have to do, that for which we are responsible, is to teach to the best of our ability. The pupil in the examination room has to answer the questions to the best of his ability. It is no disgrace either to us or to him that someone else answers them better. It is a disgrace both to us and to him that we should strive to enable him to answer the questions without understanding the subject the knowledge of which they are intended to test; and we can hardly claim to be doing our duty to the best of our ability if we wittingly so teach as not to give him the full benefit that the study of mathematics is capable of affording.

And now, ladies and gentlemen, I thank you for the patience with which you have listened to me. Having had the temerity to oppose recognised authorities, great and small, the nursemaid and the metaphysician, the elementary schoolmaster and the ancient University, I cannot expect that my views will have met with universal assent. They may serve, however, to initiate a discussion from which I anticipate the greatest benefit.

Mr. HEPPEL said, with regard to the lecturer's recommendation of oral teaching in mathematics, there must be taken into account the difficulty of teaching a large class entirely by the blackboard, so as to secure the attention of the whole in following the teacher; and there was also to be reckoned with that special characteristic of children, the worship of print, which led them to trust to the book rather than the teacher. Hence the importance of making the text-book as near perfection as was possible. With regard to the dislike on the part of many children to the study of mathematics, it was no doubt to be accounted for partly by the want of apparent connexion between the study and the interests of everyday life, and partly by the prevailing opinion at home as to mathematics being a dry study. Then there was to be considered the domination of antiquated terms, and modes of thought, which prevailed in the case of mathematics no less than in the study of language; and the prominence given to mere names—words that did not tell their own story; as well as the stereotyped order of arrangement, which the text-books followed and perpetuated. By cutting the subject up into little separate bits, the advantage was lost of illustrating one part by another, and showing their interdependence; and the pupil had no opportunity of obtaining any general view, or of seeing the direction in which he was being conducted.

Rev. J. E. SYMONS entirely agreed with all that the lecturer had said, and especially as to the necessity of the teacher coming down to the level of the elementary ideas which he had to impart. He had, in fact, endeavoured to work on much the same lines in dealing with the junior boys in his own large school; and, with regard to examination results, he had found that the system did pay. Many of his boys came from public elementary schools with School Board scholarships, and he could not help remarking on the defective training which their state of preparation pointed to. With regard to text-books, he thought they should be dispensed with altogether in the elementary stages of mathematical teaching, and that the instruction should be given orally with the aid of the blackboard.

Mr. ADAMSON said, in reference to a remark of the last speaker, that teachers in the elementary schools were not masters of the situation. No doubt, there was much in their teaching that was mechanical, but it must be borne in mind that they had always before their eyes the Inspector, and his inevitable examination, on which a large portion of their incomes, if not their very livelihood, depended. It was not wonderful, then, that with the necessity that the elementary teacher was under to produce results that would satisfy the Inspector, he should be tempted to sin against the light that was in him, and neglect the precepts of the training college, which embodied the same principles as those advanced by the lecturer. Things were now, however, improving, under the influence of a more enlightened system at headquarters, and there was a better prospect of real educational results.

Mr. REYNOLDS remarked that he had had the advantage of attending Professor Hudson's lectures when he was studying at Cambridge, and had experienced the value of the method advocated in the paper. He could not, however, affirm with confidence that this kind of teaching paid at the examination.

Mr. ROOPER said the reason why the arithmetic of the Code was so very unphilosophic was to be sought in the history of arithmetical teaching in England. No continuous science of number was taught, and until recently arithmetic was not recognised as a subject of instruction at the great public schools. This neglect had resulted in a degradation of the subject, from which it was only now recovering. Colenso might be regarded as a survival of this stage; but a better set of text-books were now coming in. Until recently, it was hardly possible to secure a reform of the Code: the teacher followed the Code, and the drafters of the Code

* London University Matriculation, used as a leaving examination.

followed tradition. It was not fair to compare the elementary teacher with the teacher in the secondary school, looking to the great difference in their conditions of work, especially in regard to the irregularity of attendance in the elementary schools.

Mr. ORCHARD said he did not altogether agree with the lecturer in his recommendation to teach Euclid before algebra. He would rather take the latter first, or take the subjects *pari passu*, illustrating the one by the other. He had frequently noticed that what may be termed the algebraic development of a pupil's mind preceded the geometric development. He used the term *development* in preference to "evolution," as there was no such thing in nature as evolution. It was, no doubt, a good plan to change the symbols in algebraic processes, but it was absolutely necessary that the meaning of the symbols should, in the first place, be understood and completely mastered. In trying to get the pupil to teach himself, it was necessary to proceed with great caution; a few examples, thoroughly understood, would suffice.

Mr. SMITH deprecated the examination of very young children, and contended that success in the passing of examinations afforded little or no proof of intelligent teaching.

Mr. TOMLIN said that, as for children not liking mathematics, the fact was that children liked what they could do. The chief difficulty for the teacher was to find out whether his pupils really understood what was being taught them or not; and for this purpose oral teaching and reproduction on paper were specially required, but it was absolutely necessary that the teacher should revise what the pupils had written. The pupil might be led on to frame his own definitions, but the definitions should always be written down, affording thus a means of training in the writing of good English, as well as in formulating thought. He had even found it a good exercise to write out the working of a sum in plain English.

The CHAIRMAN said he had been much struck with the clearness and practical character of the views expressed in the paper. If children were found stupid, he was afraid that in too many cases the stupidity was due to the teacher's own want of clearness on the subject of his teaching. The teacher must always be in advance of his work, in order to be able to deal with the elementary parts of a subject in the way best calculated to lay a solid foundation for the more advanced stages. One of the worst kinds of oral teaching was that which might be called the elliptical, or "missing word" method, where the teacher expected the pupils to answer his questions in a single word. He quite agreed with the plan of having short lessons, of half-an-hour at most, as the attention of the pupils could not be kept on the stretch for a longer time. Programmes of subjects were valuable, if it were understood that they were subject to modification, on the give-and-take principle, as circumstances might require. With regard to examinations, he was quite at variance with what had fallen from some of the previous speakers. A teacher who made the examination the object of his teaching must fail as an educator; but if he merely made use of the examination as a test of what he had been doing, and sent in whole classes and not picked candidates, then he would find it a most valuable aid. In no case should the ordinary school work be put on one side in view of an examination. He knew something of the difficulties of the elementary teacher, as he had been one himself in the early part of his career. He thought that practical teachers should have a hand in the drawing up of the Code. If mathematical studies were less liked than others, it was partly owing to bad teaching and partly to the ignorance of parents, who often sought to bring pressure to bear on the schoolmaster in regard to the subjects they desired their children to be taught; but to yield to such pressure was destructive of all systematic teaching, and it must be resisted at all costs if the school was to be a success as a place of education.

Professor HUDSON having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A Meeting of the Council took place at the College, Bloomsbury Square, on the 18th February. Present—Dr. Wormell, Vice-President, in the Chair; Rev. R. Alliot, Miss Bailey, Mr. Barlet, Mr. Bowen, Mr. Brown, Dr. Buchheim, Miss Buss, Mr. Charles, Mr. Chettle, Rev. Dr. Conder, Dr. Dillon, Mr. Eve, Rev. Dr. Frost, Mr. Harris, Miss Jebb, Rev. W. T. Jones, Mr. Kimber, Mr. Maxwell, Mr. Milne, Mr. Pinches, Mr. Reynolds, Mr. Robinson, Rev. Dr. Robson, Mr. Stewart, and Mr. Storr.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the Public Distribution of Diplomas, Prizes, and Certificates to the successful candidates at the recent Christmas Examinations, would take place on the 28th February, when the chair would be taken by Sir Charles Hall, K.C.M.G., M.P.

The diploma of Associate was granted to Miss A. S. Hughes, who had passed the required examination.

The report of the Special Committee on the Secondary Education Bill was adopted, and it was resolved that steps should be taken to call the attention of members of Parliament to the views of the Council on the matter.

The report of the Examination Committee was adopted, and the Moderators and Examiners for the year 1893 were appointed, with the

addition of Mr. P. Hebblethwaite, M.A., for Classics, and Mr. A. Dupuis, B.-ès-L., for French.

The report of the Finance Committee was adopted.

The report of the Literary Committee was adopted.

The Very Rev. the Dean of Wells was re-elected President of the Council, and Dr. R. Wormell, the Rev. Canon Daniel, and Mr. J. Stewart were re-elected Vice-Presidents; Mr. H. W. Eve was re-elected Dean, and Mr. E. E. Pinches, Treasurer of the College.

It was resolved that no prize should be awarded to a candidate at the Diploma Examination who is over thirty years of age at the date of the examination.

The following persons were elected members of the College:—

Mrs. H. C. L. Bartlett, 154 Evering Road, Stoke Newington, N.

Mr. J. M. Jenkins, West Street, Rye, Sussex.

Mr. J. A. Mackintosh, A.C.P., 3 Portland Place North, Clapham Road, S.W.

Miss L. Marriott, Hillstone, Great Malvern.

Rev. J. P. Murphy, A.C.P., Eden Villa, East Budleigh, Devon.

Mr. J. C. Simpson, A.C.P., Pine House, Wincanton.

Rev. W. Walker, D.D., Thorparch, near Leeds.

Mr. W. A. Warne, The Mead School, Tidenham, Chepstow.

Mr. James Welton, A.C.P., Yorkshire College, Leeds.

The following books had been presented to the Library since the last Meeting of the Council:—

By THE AUTHORS.—The Queen's English up to Date, by Anglophil; Henslow's Evolution and Religion.

BELL & SONS, G.—Prendeville and Freese's Livy, Book IV.; Ryland's Ethics.

CLAY & SONS, C. J.—Eve's Souvestre's Un Philosophe sous les Toits; Loney's Mechanics and Hydrostatics for Beginners; Ropes' Ponsard's Charlotte Corday; Ryle's Ezra and Nehemiah (Cambridge Bible for Schools and Colleges).

CLIVE & Co.—University of London Examination Papers for the Year 1891-2; London Matriculation Directory, January, 1893; Hayes and Mason's Tutorial Latin Grammar; Stewart's Magnetism and Electricity.

MACMILLAN & Co.—Buckley's Primer of English History; Gow's Method of English for Secondary Schools, Part I.; Macanlay's Tennyson's Marriage of Geraint and Enid; Page's Virgil's Aeneid, Book I.; Roly and Wilkins' Elementary Latin Grammar; Selby's Bacon's Advancement of Learning, Book I.; Tyrrell's Euripides' Bacchae.

SMITH, ELDER, & Co.—Pope's School Readers, Standards I. and II.

WHITTAKER & Co.—Bonney's Electrical Experiments; School Calendar for 1893.

By MR. J. F. MOON.—Napoleon's History of Julius Caesar (2 vols.) and Companion Atlas to the same; Blomfield's Aeschylus' Prometheus Vincit.

Calendar of the Royal Institute of British Architects.

Calendar of Trinity College, London.

Report of the Minister of Public Instruction, New South Wales, for the Year 1891.

REMINISCENCES OF CAMBRIDGE.

BY A MIDDLE-AGED GRADUATE.

(Continued from page 427.)

IV.—J. H. CAMPERDOWN.

My friend Camperdown was, in some respects, a remarkable character. To begin with, he must have been nearly ten years older than the other men of "his year," although, as far as looks went, he might have passed for five-and-twenty. The story of his life had been rather a chequered one. Ten years earlier he had been an undergraduate of the sister University. How strange, then, he must have felt when, ten years later, he took his place among the band of newly-fledged schoolboys as an undergraduate of Cambridge! This singular interruption of the young man's academic career was caused, we were told, by a quarrel between our friend and his father, a crusty old clergyman in the north of England, who at once gave practical proof of his displeasure by discontinuing the allowance he had previously been making for his son's education. Of course, when "the governor" stopped the supplies the son's University career came to a standstill, for, although it is possible enough to run up heavy bills (and many of us were not long in doing so) it is quite impossible to dispense with ready-money altogether. What had our friend been doing in the interval? The greater portion of his time had been passed in Australia, where, after passing through many privations, and some rather remarkable adventures, he somehow managed to pick up a living. He used to speak rather humorously of having been "called to the bar," somewhere in the neighbourhood of either Melbourne or Adelaide, a jocular mode of intimating that he had at one time been engaged in selling rum and whiskey over a counter of bare planks! Subsequently to this he must have got into what I should describe as more congenial employment were I not of opinion that, for a time at least, this strange kind of life was not without its attractions for him. One of the Anglican Bishops—I forget which of them—gave him a license to act as a sort of "Scripture reader," part of his duties being the reading of the bishop's own sermons to small congregations in districts remote from the ministrations of a regular minister. No sooner was he settled when his venerable father relented, and sent for the exile, whom I have not the slightest reason for speaking of as a prodigal. A message of

reconciliation travelled all the way from the stern Cumberland hills to the son's Australian home, and before many months had expired, the son had been entered at Cambridge, his father having undertaken to pay the expenses of his maintenance and tuition until the period when he could take his B.A. degree and become a clergyman in his native country. This was the period when I enjoyed the pleasure of his acquaintance. Poor Camperdown, however, only spent a couple of terms in the pursuit of learning at Cambridge, when his University studies were, for the second time, brought to an abrupt termination, and for the same reason. The unnatural old parent again ent him adrift! Truth, it is often remarked, is stranger than fiction; and this old gentleman's behaviour, if correctly reported, is almost as astounding as that of any old gentleman in fiction. However, friend Camperdown did, as I have related, appear upon, and then disappear from, the little stage of our college life, at that period, and his account of himself and his friends was never contradicted. With philosophical composure did our seasoned man of the world prepare himself for a return to the more hospitable shores of Australia, where now, like charming Katie Willows, he

"Holds his head to other stars,
And breathes in converse seasons."

We gave him a farewell supper the night before he left us, at which some entertaining speeches were made, and one or two diverting incidents took place. All I have heard of him since that night is that, with characteristic impetuosity, he fell in love with a fellow passenger by the steamer that conveyed him back, and was married in mid-ocean by the accommodating captain. When his foot touched Australia for the second time he was not alone. Another exile from Albion's shores had linked her fate with his.

"The world was all before them, where to choose
Their place of rest,"

and let us hope also that "Providence was their guide."

One or two of Camperdown's stories were instructive. Many others were diverting, but scarcely fit for publication. The following little adventure, I must explain, loses infinitely from not being told in the actual words of the narrator.

It seems that at one time Camperdown's stock of ready-money was exhausted, and he had not as yet succeeded in getting the employment that was to bring in more. Truly, a most unpleasant position! To a quondam undergraduate, for whom at no very distant date, the obvious method of procuring the things he wanted was to walk into a shop and order them to be sent in, the change must have been particularly striking. Possibly he may have called to mind the words of the prodigal, "I cannot dig, to beg I am ashamed." If he did so, it must have been with a feeling of contempt for a young man who would allow his aversion to digging to interfere with his chances of honourable employment. Not dig, forsooth! Why, digging was precisely the occupation.

There was, as he explained, a famous brick-making establishment, situated perhaps a dozen miles out of—was it Adelaide? I really don't remember. I am afraid that when Camperdown told me the story I had a much clearer notion of the geography of Ancient Greece than of the position of our Australian colonies, of the harbour of Piræus than of the harbour of Sydney. Well, my friend Camperdown, the *ci-devant* Oxford undergraduate, the son of an archdeacon, &c., &c., was actually bent upon getting, if possible, something to do at these brick-works, and, whilst thus earning his bread and cheese, he would "wait till the clouds rolled by." The situation to which he aspired was not that of clerk or foreman; it was not even that of an ordinary "hand," for brick-making was an art in which he had received no previous instruction; and, though a man may be permitted to try his "prentice-hand," say, as a legislator, a teacher, or a curer of souls, the case is different, far different, in the matter of an employer's bricks. All that Camperdown could hope for was the situation of *the man who fetched the clay* for another man to make bricks of.

Imagine, then, that our friend has started, one sultry summer's day, to walk the dozen miles or so that separated the town of (I forget what) from the brick-works, which were the goal of his pilgrimage, and that he has arrived, perspiring and thirsty, at the spot where he hopes to obtain the work he has come in quest of. The unhappy man rings the bell, and requests an audience of the mighty manufacturer, hoping to buttonhole him and explain, as one gentleman might do to another, the story of his little difficulty. The pleasing result he hoped for might, perhaps, have come to pass—nay, let us say it would have come to pass—but, unfortunately, the man he came in quest of was *not at home*.

And then there arose the following interesting complication. Camperdown's appearance was against him—that is to say, his gentlemanly aspect debarred all suspicion of the real object of his errand; and the owner's servant, thinking that he came "on business," or possibly with the intention of seeing over the works, for the manufactory attracted numerous visitors, asked Camperdown to walk into the house. He did so, nothing loth, and presently found himself, he hardly knew how, engaged in an agreeable *tête-à-tête* conversation with the owner's wife, who seemed to take it for granted that the visitor had nothing more serious in view than to while away an hour or two in her husband's company. Camperdown was asked whether he would take a biscuit and a glass of sherry. As he was, by this time, almost in a fainting condition, the offer was accepted with gratitude, and hostess and guest were at once on a friendly footing. Camperdown was a capital talker, and by the aid of the wine the string of his tongue was loosened. He was asked to take another glass, and complied with the invitation; then to "help himself," and he complied yet again; and meanwhile his conversation was as interesting, apparently, to his hostess as was that of the Moor to Desdemona. Two hours elapsed, and then, the last biscuit having been devoured, and the last drop of sherry drained from the bottle, our voluble friend seemed, for the first time, to realize the awkwardness of the position. There was still no sign of the husband's return, and his visit had been protracted to the extreme limit of conventional courtesy. The lady, if she had not actually told her visitor "all that she ever did in her whole life," had still been frankly communicative. How was it possible, after this, to tell her that he had come there with the intention that her husband should "make him as one of his hired servants"? The idea was too dreadful. He got up, therefore, thanking the lady profusely for her kindness, regretting most sincerely that he had missed making the acquaintance of Mr. X., and promising to call again on a future day to see over the works. And every foot of the twelve weary miles was tramped over a second time.

If this should ever meet the eye of my old friend, he will, perhaps, remember telling me this story, as we boated on the reedy Cam. Nearly twenty-five years have passed away, and yet that story, heard but once, has remained, like the song in Longfellow's little poem,

"Fast bound up in the heart of a friend."

It is to be feared that his short Cambridge training failed to redeem his subsequent career, just as his Oxford training failed to render fruitful his trip in search of employment; but of the story and its sequel more anon.

EDUCATIONAL NOTES AND SUMMARY.

At a meeting of the East of Scotland Branch of the Secondary Schoolmasters' Association, on February 11th, Professor Laurie delivered an address on "Certain Pressing Educational Questions of the Day." He devoted much of what he had to say to criticism of the recent finance ordinance of the Universities Commissioners, establishing a general fee fund for the payment or equalization of professors' salaries. Speaking, he said, not as a professor, but as a citizen and an educationalist—for the ordinance was a public document—he argued that this proposal of the Commissioners was unsound, because it tended to reduce the Professorial University to a college, and to Anglicize it; because it reduced the money stimulus to teach well and do more than one's mere duty; because it affected for the worse the close personal relation between a professor and his students; because it tended to produce a moral reaction in the professor which was not for the benefit of his students; because it tended to introduce an element of dissatisfaction and a sense of injustice in the minds of those who worked hard when they knew that certain colleagues were taking it easily; because it threw the maintenance of the prestige of the University on a few ardent men, while men of indolent temperament, or possibly of large private means, simply did their duty and no more; and because, finally, it was opposed to their Scottish traditional custom, by which they had flourished greatly in spite of the shameful neglect of the State. Under the system proposed by the Commissioners, it was a professor's manifest interest to have as small a class as possible; and so, at the same time that the general efficiency would tend to go down, the number of students would fall off, and the aggregate of fees to be divided would decrease. Proceeding to touch on the question of the salaries which the Commissioners proposed to give to certain

Chairs, Professor Laurie said he should not speak in detail of the miserable and discredibly paltry pecuniary estimate of the position and work of a professor which the Commissioners had taken. He was quite certain that the Lord Provost of the city and the magistrates, and the Merchant Company of Edinburgh, would never have attached their names to the Commissioners' proposals. It was most grievous and distressing, and filled one with despondency as to the future of the higher education, to find men of such high standing proposing that the minimum salaries which the professors might reach should be £400 or £450 a year, and that for a man who had reached the highest position which he could attain in his profession, and which he was expected to keep a family upon. If the salary of a professor holding the highest educational position in the country might fall to £400 a year, what might the tendency not be upon the salaries of secondary and elementary schoolmasters? His own conviction, he added—and it was shared by men like Sir William Turner—was that if their Scottish system, with its multifarious relations to non-graduates, as well as to graduating students, was to become thus Anglicised by the universities being collegiate, and if the money value of their Chairs was to be so estimated as it was by the Commissioners, the sun of the prosperity of their Scottish Universities was fast setting. Next taking up the general question of secondary education as affected by the recent Departmental memorandum, Professor Laurie renewed the expression of his desire for the establishment of a Central Executive Commission, charged with the oversight and organization of secondary education. In concluding, Professor Laurie pointed to the value of the schoolmaster's diploma and criticised the attitude of the Department in London in practically assessing the holder of this diploma as of less teaching and educational value than the men turned out by the training colleges.

It is reported that the Departmental Committee appointed by Mr. Acland to consider the question of the formulation of a scheme of Secondary Education for England, has decided that the Science and Art Department shall have the control of the scheme to be placed before Parliament.

THE Legislative Assembly for Jersey has, after a close division and a debate extending over three days, adopted the principle of compulsory education.

A DECISION of great importance has just been given by the English Divisional Court of Appeal. It has long been a matter of doubt whether a teacher could legally punish a pupil for an offence committed out of school. Two of the most eminent English judges have removed the doubt. It has been decided that, "it was not reasonable to hold that the parent's authority ended at the house door, and the schoolmaster's did not begin till the school door" was reached. "There must be authority in the schoolmaster to punish" for faults committed when coming to, and going from, school. Teachers will readily realise the value of this decision. It is refreshing, remarks the *Educational News*, to read the breezy common-sense of a judge after the maudlin sentimentality of the ordinary cruelty-hunter. In the decision referred to above, some important previous decisions were quoted; and they all went to show that, in the opinion of the most eminent lawyers of England, corporal punishment is indispensable in large schools. The teacher is invested, for the time, with the authority and power of the parent; and it is not only his right, but his duty, to make that power felt when necessary.

DESCRIBING a visit to Dulwich College, Mr. Walter Besant asks in the *Queen*:—"Would you like to know how schoolboys were fed in the time of James I.? Here is the ordering of Alleyne, the founder. Every morning at eight they were to have a cup of beer and 3 oz. of bread. On three days of the week they were to have, both for dinner and for supper, a good mess of pottage, ½ lb. of good beef (boiled), 6 oz. of bread, and beer without stint. On other three days they had the same bread and beer, with pottage, but no beef, and, instead, butter and cheese; but instead of butter and cheese they had sometimes fish, sometimes pear or apple pies. On Sundays they had, at 'open time,' roast beef for dinner and roast mutton for supper. 'Open time' meant the summer, because from October till April there was no fresh meat. No mention is here made of vegetables. This is strange, because the return of vegetables to the table was by this time

quite common. Perhaps the boiled beef included carrots and turnips. It will be observed, however, that the children were not allowed meat every day. Beer 'without stint'! Dear madam, do you allow your little boy of eight beer without stint? True, it was very small beer, and, as the Irishman said of his claret, not a headache in a hogshead. But still—at the tender age of eight! No wonder we became a toping nation. Even the 'poore schollers' of eight to drink beer without stint!"

At the Education Department, Whitehall, on the 11th instant, a deputation of managers and teachers of schools, and representatives of the Society for Utilising the Welsh Language, and the National Union of Teachers, waited upon Mr. Acland, Vice-President of the Committee of Council on Education, and urged that the system of elementary instruction advocated by the above-named Society might be optionally carried out by managers of schools in Wales and Monmouthshire under the provisions of the New Code. The principal objects the deputation sought to attain were:—

"(1) The use of bi-lingual reading books throughout the school course, from the lowest infant class to the highest standards; (2) the teaching of English in association with Welsh; (3) the substitution of a graduated scheme of translation from Welsh to English, and *vice versa*, for the requirements of English grammar and composition, which do not easily apply to the circumstances of Welsh schools; (4) the use of Welsh as an educational instrument throughout the whole course by systematic resort to translation and comparison of terms and idioms occurring in the two languages, and systematic employment of explanations and questions in Welsh upon lessons learned in English; (5) the devotion of special attention to the geography, history, and literature of Wales, and to the subject of Welsh industries."

Mr. Acland, in reply, acknowledged the desirability of giving encouragement to the teaching of Welsh in the schools. Nobody who knew Welsh could be so foolish as to suppose that the Welsh language was going out of use to-morrow or the day after, and not only the Department, but the inspectors had every sympathy with the objects sought by the deputation, and they would do all they could to show that the subject was not only tolerated, but sanctioned and approved. He would, therefore, arrange for the embodiment in the Code of the subject which was at present optional; and, in connexion with the instruction in geography, history, and literature, and Welsh industries, in direct relation to Wales, he would do all he could to forward the teaching of the class subjects so as to bring it into direct connexion with the interests and traditions of Wales in her history. There was much more room for books on Welsh history and illustrations of the ancient remains and beautiful buildings and scenery of Wales, which, he suggested, should be photographed and exhibited on the walls of the schools. They were also perfectly ready to include Welsh as a class subject in the same way as they had agreed to put French as a class subject into the Code for Jersey; and in the Evening School Code Welsh would also be recognised as a subject of teaching. It was obvious that if those things were to be done, every opportunity should be given to the teachers who desired to carry through their career in Wales to have the best instruction so as to fit themselves for their work; and, therefore, in the examinations for Queen's scholarships, they were thoroughly willing to recognise the subject of the Welsh language, and he looked with favour upon every encouragement that was given to it in the Welsh training schools. He believed, in the main, the Department would be able to meet the wishes of the deputation, and he could assure them that the interest which the Department took in the best development of Welsh education, whether in the primary or secondary sphere, was no whit less than their interest in English education.

THE annual meeting of the Sloyd Association was held January 28th, at 74 Gower Street. The Hon. Lyulph Stanley was re-elected president. Herr Salomon and Dr. Götze vice-presidents, and Sir J. Lubbock treasurer. Rev. T. W. Sharpe, Mr. T. G. Rooper of Bradford, Mr. J. Struthers of Edinburgh, Mr. L. Alma-Tadema, R.A., Dr. Gladstone, and Archbishop Walsh, were also chosen vice-presidents. Mr. J. S. Thornton was re-elected hon. secretary, and some members of committee were for the first time chosen from centres as far distant as Lancashire, Yorkshire, Edinburgh, and Belfast, in the hope that on the receipt of the agenda they would keep the committee acquainted with the country feeling on the matters under discussion. Good progress was reported. There had been an increase of 70 per cent. in the membership. The County Councils that had, in

addition to Essex, taken up Sloyd, were Leicester, Cambridge, Derby, Lincoln (Lindsey Division), and Hereford. Nowhere had the progress been greater than in London. Twelve months ago there was no Sloyd training class in London. Now there were classes under the auspices of the Association at 32 Fleet Street, attended by fifty teachers; the London School Board had increased the schools where Sloyd is taught from two to four; and the Hornsey School Board were teaching Sloyd to three hundred children. The number of Sloyd classes in town and country had, in nine months, risen from seventy-one to one hundred and thirty. The arrangements for an Examination Council were completed, and it was decided to adopt for the future the anglicized form—Sloyd—of the word Slöjd.

At a meeting of the Royal Statistical Society, held on Tuesday, the 21st instant, at the Museum of Practical Geology, Rowland Hamilton, Esq., Vice-President, in the Chair, a Paper was read by Francis Warner, Esq., M.D., F.R.C.P., on the "Results of an Inquiry as to the Physical and Mental Condition of Fifty Thousand Children seen in One Hundred and Six Schools." As a sample of the school population, the author inspected individually fifty thousand children seen in one hundred and six schools, and filled in schedules describing each of the nine thousand one hundred and eighty-six cases presenting some deviation from the normal. These cases have been tabulated. It has thus been possible to classify children below the normal in physical and mental condition, giving descriptions of them in terms implying points seen, and the independent report of the teachers upon their mental capacity. Results of tabulation give groups of children, and the means of estimating the condition of the child-material in a school (or group of schools), so that an opinion may be formed as to its special characters and needs; at the same time individual cases may be presented and the general characters of the children compared with the average in all particulars. The children mentally feeble, epileptic, crippled, and those "feeble in constitution, with defect or disordered nerve-system, and dull," are enumerated; the whole group is thought to include those who need special care and training, and amounts to sixteen per thousand of the children seen. Marked differences exist between the Jew, English, and Irish children, their freedom from defect being in the order given. The relative value of each defective condition is given as indicated by its co-relations with nerve-disorder, low nutrition, and mental dulness. Low nutrition is found mainly associated with defective development, and both these conditions are slightly more prevalent in the upper social class as compared with the poorer schools. Some facts bearing on the causation of defects are recorded, such as their distribution in certain localities. Further investigation in this direction is much needed. Analysis of defects of the cranium shows that, while they are productive of much harm, a large proportion is due to rickets in early life, while small-headed children are disproportionately distributed in certain districts, apparently being more common among high buildings. Comparison of boarding with day schools indicates the more favourable conditions resulting from home life and day school in all particulars except nutrition of body. The fact that children with defects are much more numerous in the poor-law and certified industrial schools, points still further to the amount of social incapacity resulting from low-class development and disordered brain conditions. The author is of opinion that a much more extended inquiry on similar lines is needed, and that such would furnish exact information as to conditions among children, the neglect of which leads to many forms of social failure.

THE Board of Education in New York has decided to make the Kindergarten a part of the public school system of the city. This feature for some time has been included in the public school course in Boston, Philadelphia, St. Louis, and Toronto, and has worked well.

THE Draft Charter of the proposed University of Wales states that women as well as men shall be eligible for Degrees in the University, and for every office, and for membership of every body or authority constituted. The head teachers of public intermediate schools in Wales and the head teachers of public elementary schools in the same country will each appoint three representatives to the University Court. In each of these groups one, at least, of the representatives must be a headmistress.

THE British and Foreign School Society are advertising for a Resident Principal for the Training College, Isleworth, of high University distinction, at a salary of £600 a year, with house. Particulars may be obtained from Alfred Bourne, Esq., at the Central Offices of the Society, 115 Temple Chambers, Temple Avenue, London, E.C.

MESSRS. MACMILLAN are re-issuing in a uniform monthly series of volumes the sermons and other works of Frederick Denison Maurice. "Christmas Day and other Sermons," the first of the series, consists for the most part of sermons preached at Guy's Hospital while Maurice was chaplain there.

An experiment for the encouragement of the study of modern languages is to be tried during next August at Jena. It is proposed, after the example of the Oxford Summer Meetings, to gather together English and German teachers and students for the purpose of associated study of German and English, by means of formal lectures and informal intercourse. The lectures will be divided into two classes: (1) an elementary course for those who have but little knowledge of the language, and (2) an advanced course for those who can more easily follow lectures in German. Arrangements will be made to further in every possible way social intercourse between the two groups of students. The whole necessary expense is estimated at between £12 and £15.

UNIVERSITY INTELLIGENCE.

UNIVERSITY OF LONDON.

Amongst the Pass-Lists posted during February, we note one pertaining to the autumnal series of examinations. It is a report upon a "First Scriptural Examination" held in Jamaica, at which two candidates, both from the University College at Kingston, presented themselves; and both have passed—one, Mr. G. S. Grange, in the first class, and the other, Mr. J. L. Ramson, in the second class. If Mr. Grange had been examined in this country, he would have been recommended for a prize of books to the value of five pounds. This is, we believe, the first time that a scriptural examination has been held out of England; which reminds us that, in recently looking through the volume of Minutes of the Senate for 1891, we noted some minutes providing, in answer to a memorial from the Jamaica Schools Commission, that besides the examinations for Matriculation and the Pass examinations in Arts (which alone had previously been held in Jamaica), there might also be held in the island, on application, the Intermediate Arts Honours Examinations, the B.A. Honours (except those of which a *virid-voce* interrogation forms part), the M.A., and the Scriptural Examinations. Possibly the British West Indies may some day possess a University of their own; but until that day comes—and owing to the dispersion of the islands and other causes the day seems, at present, a long way off—the London University is fulfilling a useful and generous function in encouraging higher education there.

Proceeding with the January examinations, we come to the Laws Honours. At the Intermediate Examination, fifteen honours candidates are successful, and four are in the first class. The first in order of merit, Mr. W. N. Hibbert of the Birkbeck Institution, obtains the exhibition; and the second and third candidates, Mr. J. A. King, B.A., and Mr. F. G. Neave, both private students, have severally obtained the number of marks qualifying for the exhibition; the fourth candidate, Mr. Cyril Atkinson, comes from Owens College. At the LL.B. Honours eight candidates are through, but only one, Mr. J. H. Bakewell, of Lincoln's Inn, is in the first class; the scholarship is not awarded.

At the LL.D. Examination, it is said that seven candidates were present, but only one has passed, viz., Mr. H. L. Hart, of the Middle Temple.

At the Matriculation Examination, there were 1,295 candidates, against 1,265 in January last year; but the passes only number 527 (40.7 per cent.), against 698 (55.2 per cent.) last year. The number in the Honours division has fallen from 17 (which was surely low enough) to 9, and in the first division from 500 to 292; while in the lower division there has been a rise from 181 to 226. One would very much like to know whether the very great slaughter of 738 out of 1,265, and the extensive sinkage in the two upper divisions, are due to a corresponding fall in the knowledge and capacity of the candidates, or (as we have heard it asserted) to the crabby nature of some of the question-papers. Even the girls fail this time to raise the average of passes as they have hitherto done; in fact, they are for once more unfortunate than the boys, only 98 (37.1 per cent.) out of 264 passing, none in Honours, 51 in the first division, and 47 in the second. In the whole Honours division there are not enough candidates under twenty years of age to take all the prizes, &c. The first candidate, Mr. F. J. Allen, a private student, is too old for the first exhibition, which goes to Mr. H. E. Lutt, of St. Peter's College, Brockley; the third candidate, Mr. A. T. Purver, late of St. John's College, Battersea, is too old for the second exhibition, which goes to Mr. L. N. Filon, of Herne House, Margate; the fifth and sixth can-

didates, Mr. G. Baylis and Mr. H. Beckton, both private students, are severally too old for the third exhibition, which goes to Mr. Thomas Hay, of St. John's College, Cambridge, and late of the Royal Grammar School, Newcastle-on-Tyne. The eighth candidate, Mr. John Talbot, of the High School, Newcastle-under-Lyme, gets the first prize; and the ninth, Mr. J. A. Matheson, of St. Andrew's College, Swansea, gets the second prize; there is no one to take the third prize.

There only remain the two pass examinations in the medical faculty, viz., (1) the Preliminary Scientific, at which 22 candidates have passed the whole examination; 55 (of whom two went in for the whole) have passed in chemistry and physics; and 37 (of whom 18 went in for the whole examination) have passed in biology only; (2) the Intermediate Examination, at which 32 candidates have passed in the whole examination; 13 have passed in all subjects except physiology; and 16, who had previously so passed, have now passed in physiology only.

CAMBRIDGE.

Mr. J. Armitage Robinson, of Christ's College, has been elected to the Norrisian Professorship.

Mr. Gill, of Magdalene College, has been elected Esquire Bedell.

The Adams Prize, offered biennially, has been adjudged to J. H. Poynting, Sc.D., late Fellow of Trinity, for an essay on "The Methods of determining the absolute and relative value of gravitation, and the mean density of the Earth."

At Girton, the Gibson and Gamble Prizes for 1892, open to certificated students of the College, have been awarded as follows:—The Gibson Prize to Miss S. A. Burstall, for an essay on "The Evidence from the New Testament of the existence of Primitive Formularies and Confessions of Faith"; the Gamble Prize to Miss K. M. Emery, for an essay entitled, "Manners and Customs of the Age of the Ptolemies drawn from Theocritus and Herondas."

A Chancellor's Medal has been awarded to Mr. G. M. Buck, B.A., of Cains College.

The Davies Scholarship has been awarded to Mr. A. D. Nightingale, of Trinity College.

The Pitt Scholarship has been awarded to Mr. J. A. Nairn, of Trinity College.

Dr. Lumby has been appointed assessor to the Regius Professor of Divinity.

Professor Allbutt, Professor MacAlister, and Dr. D. MacAlister have been appointed representatives of the University at the eleventh International Medical Congress, to be held at Rome in September.

Professor Jebb has been re-elected president of the Cambridge Philological Society for the current year.

OXFORD.

Sir Frederick Pollock, M.A., has been re-elected to the Corpus Professorship of Jurisprudence.

The Boden Sanskrit Scholarship has been awarded to Mr. R. Daniels, of Balliol. Honourably mentioned, Mr. H. C. Moore, Balliol.

The Rev. Dr. J. Fowler, Mr. Arthur Robinson, and Mr. F. York Powell have been elected as delegates of the Common University Fund.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

The Professorship of Latin in the University College of South Wales and Monmouthshire has been filled by the appointment of Mr. R. S. Conway, Fellow of Cains College, Cambridge. Mr. Conway was formerly Waddington Scholar of the University, and won a First Class in both parts of the Classical Tripos.

The Rev. R. Arnold Edgell, Master of the Modern Side of Westminster School, has been appointed Headmaster of Leamington College.

Her Majesty has chosen Mr. William Job Collins to be a Fellow of London University in the place of the late Lord Sherbrooke.

Dr. H. J. Johnston-Lavis has been appointed to a newly founded chair of Vulcanology in the University of Naples.

ETHICAL CULTURE IN PRIMARY AND SECONDARY SCHOOLS.

We take the following extract from a paper by Mrs. Williams, of Delaware, as it appeared in the *New York School Journal*:—

"Can formal moral lessons be profitably given in schools? Undoubtedly such lessons can be profitably given, but undoubtedly not all that have been attempted have been profitable. Teachers must base their methods upon the principles of moral philosophy, and work in harmony with nature to secure the best results. Moral science tells us that in order to secure correct action there must be first an intellectual apprehension of moral distinctions. Moral judgment must be developed, and a habit of moral discrimination. The feelings must be enlisted. A love for the virtues, such as purity, truth, justice, loyalty, must be stimulated; and a corresponding aversion to the vices, such as selfishness, deception, injustice, cowardice. The sentiment of duty must become the controlling one. A proper value must be attached to motive.

"Lessons should be given in the concrete. The basis of the lesson must be an incident from real life, short, vividly presented, and capable of teaching a moral lesson. It must be so positive in its character that the judgment of the class will decide on the right side. It must appeal to

the sentiments. The feelings must be moved to confirm and fortify the judgment. The element of motive must enter into the incident, so that children can be led to determine the quality of the act in the light of it.

"The will of the child is his own, to exercise as he shall choose when occasion arises, for his own moral act. Here personal responsibility begins, and every pupil is an independent soul. Compulsion may sometimes be resorted to for temporary ends, but moral victories come only through freedom of action. This thought of personal responsibility is a tremendous one when it is first comprehended by the child.

"These lessons should proceed from the known to the unknown, from the already attained to the immediately attainable. May it sometimes happen that, not taking an account of this, we do not give our pupils credit for the excellencies they already possess, and by this failure make our instruction so puerile or so general that it is valueless? It is in human nature to wish the good in it properly recognised. In a lesson upon truthfulness, for instance, it would be very unfortunate to assume that all the pupils are liars; and liars at every point. Far better would it be to make a list of circumstances in which all would undoubtedly tell the truth, but suppose this particular temptation, out of the ordinary experience, then who has the will-power to resist? Or the lesson may be addressed to some fault which prevails through lack of moral discrimination, as, peeping into books in recitations, receiving assistance upon examination, &c. Often the conscience has not been asked to sit in judgment upon such matters.

"The lesson should have a specific object. This has been already assumed. Not all selfishness, but one particular form of it, not all disobedience, but one especial phase of it, should come under discussion.

"It is without doubt true that moral conceptions are made more vivid by their expression in poetic form, and therefore a moral lesson may properly culminate in the memorizing of a beautiful sentiment, poetically expressed. These 'poetic gems' will remain in the memory, a restraint from evil or an impulse to good, long after the occasion which suggested them has been forgotten—perhaps after the teacher himself has passed out of mind. History is full of incidents where the snatch of a song or the verse of a poem has inspired fainting virtue, has opened a door of hope to a despairing soul, has been the very voice of God to one unused to hear Him speak."

THE WORLD A UNIVERSITY.

(Taken from *The New York School Journal*.)

[The following extract is from the baccalaureate sermon by Dr. Edward Everett Hale to the Harvard seniors.]

I was greatly pleased when I received your invitation to come here to-day. It is not that one congregation of intelligent people differs much from another in the sympathy with which they listen; but it is because we who speak here always know that, from the necessity of the case, we speak to men who are going to lead. That is what college life is for, and, among friends, there is no harm in saying so.

The University has been doing her best to make you leaders in these States, in this nation. That is what the University is for. Her boys may fail her—often do—but to her "there's no such word as fail." She means to do her part. And you, as you go out, are entitled to the pride—which need not be conceit or arrogance, as it need not be petty in any sense—of those who are sent out to grave responsibilities, as well as great privileges, as teachers in one or another line, as leaders where courage and purity must lead, as examples when a column is shaking and may perhaps give way. You are beginning life with ideals and purposes wholly different from those which the man has who has not been trained to consider the public service as his first duty and his great opportunity.

This service may not be in the field of political administration, which is in itself rather narrow. It may be in lines which look to the health of men, to their homes, to their education; it may be in the direction of their travel, in clothing them, or in housing them.

Thirty years ago it meant war to preserve the right of freemen to self-government. The form is varied, but in one of the hundred such lines there is public service opening before every man whom I address.

In the "larger college of the world" you are to carry forward the training. In that larger college man has to be his own president, fellow, professor, and instructor. The world gives the diplomas, the rewards, the warnings, and the punishments, but the man himself has to be his own director. Whether he will go to chapel or not, whether he will breakfast at seven or eleven, whether he will read or write in the morning or the evening—all this is directed in the future for you by no coach, no calendar, no faculty, no officer, but by your own determination, foolish or wise, right or wrong, as these years of training may have made it.

And, of a sudden, a man finds that whatever profession or calling he chooses for himself he has been appointed, by a power which he cannot escape, to be the director of his own separate life—an affair quite as difficult as giving advice to a nation.

It is now, therefore, that every man of you will find the good of such all-round training as college life has given him. Quite beneath all discussion of electives and vocations, as whether I will be an engineer or a clergyman, is the certainty for every one who is to be a leader of men that he must be a man—to be a "full-grown man"; the old version read squarely, and none too strongly, to be a "perfect man."

St. Paul puts it simply and coolly, as if that were an easy enough business, as, indeed, why should it not be—from his point of view? So many sons of God inheriting the nature of an almighty God, why should they not use almighty power? To be a man means that I shall hold my body and my mind well in hand. They shall do just what I bid them do, and it means that I myself, being of God's essence and nature, being infinite and immortal, will hold myself in such training that body and mind shall have to obey me. I am not to be marked by this appetite or that. If I bid my fingers open when they hold the glass, my fingers shall open and the glass falls upon the floor. If I bid my brain think on pure things, and reject impure, if I bid it think on things honorable and of good report, my brain shall obey me.

Such is to be the leading principle in the education of these 250 new colleges, in which each of you is to be president and pupil at once. Nor could I make a simpler statement of what is the purpose and hope of any university education. It is university education. It is for all-round life. It is not for this side, nor for that, but for that truly catholic range in which the whole sphere of observation and of science is included. As the word university implies, it is for the whole universe of man.

COLLEGE OF PRECEPTORS.—CERTIFICATE EXAMINATION. CHRISTMAS, 1892.

The following is the list of the successful candidates at the Jamaica, Sierra Leone, and Lagos Centres, the papers from which arrived too late to admit of the results being included in the general Class List:—

Boys.

FIRST CLASS.—PASS DIVISION.

Cole, M. S.	The C.M.S. Grammar School, Lagos.
Pratt, S.	The C.M.S. Grammar School, Lagos.

SECOND CLASS.—SECOND DIVISION.

Johnson, C. J.	Wesleyan Boys' High School, Lagos.
Savage, R. A.	The C.M.S. Grammar School, Lagos.
Cole, J. A.	Wesleyan Boys' High School, Lagos.
Allen, W. A.	The C.M.S. Grammar School, Lagos.

SECOND CLASS.—THIRD DIVISION.

Shaw, S. D. T.	Wesleyan Boys' High School, Lagos.
Faulkner, J. A. B.	Wesleyan High School, Freetown, Sierra Leone.
Martius, E. J.	The C.M.S. Grammar School, Lagos.
Thorpe, C. C.	Wesleyan High School, Freetown, Sierra Leone.

THIRD CLASS.—FIRST DIVISION.

Da Rocha, M. J.	The C.M.S. Grammar School, Lagos.
Wright, J. S.	Wesleyan High School, Freetown, Sierra Leone.
Obadina, A.	The C.M.S. Grammar School, Lagos.
Taylor, E. G.	Wesleyan High School, Freetown, Sierra Leone.
Elliott, J. E. H.	Wesleyan High School, Freetown, Sierra Leone.
George, C. W.	The C.M.S. Grammar School, Lagos.

THIRD CLASS.—SECOND DIVISION.

Bye, A. H.	The C.M.S. Grammar School, Lagos.
Leigh, D. A.	The C.M.S. Grammar School, Lagos.
Benjamin, J. B.	Wesleyan Boys' High School, Lagos.
Liye, M. T.	The C.M.S. Grammar School, Lagos.
Jackson, T. H.	The C.M.S. Grammar School, Lagos.
King, E. H.	Wesleyan Boys' High School, Lagos.
Bueknor, S. L. H.	Wesleyan Boys' High School, Lagos.
Macaulay, F. T. B.	Wesleyan Boys' High School, Lagos.
Thomas, J. B.	Wesleyan High School, Freetown, Sierra Leone.
Dalley, S. W.	The C.M.S. Grammar School, Lagos.
Dauphin, E. J. E.	Wesleyan High School, Freetown, Sierra Leone.
Macaulay, M. R. L.	Wesleyan Boys' High School, Lagos.
Bishop, F. A.	Wesleyan High School, Freetown, Sierra Leone.
Dawodu, J. P.	The C.M.S. Grammar School, Lagos.
Obafemi, M. H.	The C.M.S. Grammar School, Lagos.
Paraizo, F. B.	The C.M.S. Grammar School, Lagos.
Tepowa, G. A.	Private tuition.
Wilson, M. N.	The C.M.S. Grammar School, Lagos.
Thomas, T. J.	Private tuition.

THIRD CLASS.—THIRD DIVISION.

Cargill, J. H.	Preparatory School, Halfway Tree, Jamaica.
Macaulay, R. P. H.	Wesleyan Boys' High School, Lagos.
Lewis, E. A.	Wesleyan High School, Freetown, Sierra Leone.
Williams, P. P.	Wesleyan Boys' High School, Lagos.
Coker, J. K.	The C.M.S. Grammar School, Lagos.
Pearce, M. J.	Wesleyan Boys' High School, Lagos.
Taylor, E. A.	Wesleyan Boys' High School, Lagos.
Allen, A. W.	Wesleyan Boys' High School, Lagos.
Macanlay, T. J.	Wesleyan Boys' High School, Lagos.
George, J. O.	The C.M.S. Grammar School, Lagos.
Wey, J. A.	Wesleyan Boys' High School, Lagos.
Williams, J. F.	The C.M.S. Grammar School, Lagos.
Jacobs, E. S.	Wesleyan Boys' High School, Lagos.

GIRLS.

SECOND CLASS.—SECOND DIVISION.

Wilson, R. E.	Annie Walsh Memorial School, Sierra Leone.
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THIRD CLASS.—FIRST DIVISION.

Palmer, M. D.	Annie Walsh Memorial School, Sierra Leone.
Paul, L. S.	Annie Walsh Memorial School, Sierra Leone.
Davies, S.	The C.M.S. Girls' School, Lagos.

THIRD CLASS.—SECOND DIVISION.

Musson, A.	Ladies' College, Halfway Tree, Jamaica.
Elliott, E. I.	Ladies' College, Halfway Tree, Jamaica.
Macfoy, C. M.	Annie Walsh Memorial School, Sierra Leone.
Spaine, I. A.	Annie Walsh Memorial School, Sierra Leone.
Stober, C. V.	Annie Walsh Memorial School, Sierra Leone.
Edwin, S. L.	Annie Walsh Memorial School, Sierra Leone.
Clough, E. M.	Ladies' College, Halfway Tree, Jamaica.
Forster, C. M.	Annie Walsh Memorial School, Sierra Leone.
Smythe, L. A. S.	Ladies' College, Halfway Tree, Jamaica.

THIRD CLASS.—THIRD DIVISION.

Bowen, J. C.	Annie Walsh Memorial School, Sierra Leone.
Finlasin, M. M.	Ladies' College, Halfway Tree, Jamaica.
Small, C.	Ladies' College, Halfway Tree, Jamaica.
Leigh, A. S.	Private tuition.
Elliott, K.	Ladies' College, Halfway Tree, Jamaica.
Schiller, D. V. C.	Ladies' College, Halfway Tree, Jamaica.
Clough, A. L.	Ladies' College, Halfway Tree, Jamaica.
Schiller, M. M. E.	Ladies' College, Halfway Tree, Jamaica.

ERRATA IN CLASS LIST.

FIRST CLASS (GIRLS).

Insert in Pass Division: Baker, A., The Stricklands, Stowmarket.
Insert in List of Candidates (Girls) who passed the Oral Examination in French: Aylmer, C., Hill House School, Downham Market.

CORRESPONDENCE.

APPLICATIONS FOR NÄÄS.

To the Editor of the Educational Times.

SIR,—Will you kindly allow me to inform your readers that blank application forms for Nääs are now ready and can be had up to March 20th? The date for returning the same is March 24th.

J. S. THORNTON, Hon. Sec. Sloyd Association.

Forest Place, Leytonstone, E.

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending February 28th, 1893.

- Aberdeen (Earl of), by Hon. Sir A. Gordon, cr. 8vo, 3s. 6d. cl. (Prime Ministers of Queen Victoria.)
Bickersteth's (A.) The Harmony of History, 4to, 2s. 6d. cl.
Bowen's (H. C.) Froebel, and Education by Self-Activity, 5s.
Burrow's (M.) Commentaries on the History of England, cr. 8vo, 7s. 6d. cl.
Champneys's (A. C.) History of English, cr. 8vo, 7s. 6d. cl.
Ciceronis Lælius sive de Amicitia, with Introduction, &c., by Sir G. Stock, 12mo, 3s. cl. (Clarendon Press.)
Clarke's (Rev. A. D.) Army, Woolwich, and Civil Service Riders, Geometrical Problems, cr. 8vo, 2s. cl.
Cummins's (C.) Bookkeeping, the Science explained, with Improved Systems, royal 8vo, 2s. 6d. swd.
Edwards's (J.) Differential Calculus for Beginners, 12mo, 4s. 6d.
Eminent Persons, Biographies reprinted from the "Times," Vol. 2, cr. 8vo, 3s. 6d. cl.
English Prose, Selections, with Critical Introductions by Various Writers, edited by H. Craik, Vol. 1, cr. 8vo, 7s. 6d.
Fowler's (W. W.) The City State of the Greeks and Romans, cr. 8vo, 5s. cl.
Froude's (J. A.) The Divorce of Catherine of Aragon, 6s. cl.
Gospel of St. Luke in Anglo-Saxon, edited, with Introduction, by J. W. Bright, 12mo, 5s. cl. (Clarendon Press.)
Griffiths's (A. B.) Manual of Bacteriology, cr. 8vo, 7s. 6d. cl. (Heinemann's Scientific Handbooks.)
Hastings (Marquis of), by Major Ross, cr. 8vo, 2s. 6d. cl. (Rulers of India.)
Hawkins's (A. E.) A Term's Lessons on Air, 12mo, 2s. 6d. cl.
Herodotus, edited, with Notes, &c., by E. Abbott, Books 5 and 6, 8vo, 10s. 6d. cl. (Clarendon Press.)
Hoffmann (O.): Die griechischen Dialekte, Vol. 2, 14m.
Hopkinson's (J.) Original Papers on Dynamo Machinery and Allied Subjects, cr. 8vo, 5s. cl.
Jefferies's (R.) Nature near London, cr. 8vo, 6s. buckram. (Hand-Made Paper Edition.)
Junior Local Arithmetic (The), without Answers, 12mo, 2s.
Keltie's (J. Scott) The Partition of Africa, with 21 Maps, large post 8vo, 16s. cl.
Lacouperie's (A. T. de) The Oldest Book of the Chinese: Vol. 1, History and Method, 8vo, 10s. 6d. swd.
Life and Labour of the People in London, edited by C. Booth, Vol. 3, 8vo, 3s. 6d. cl.
Loney's (S. L.) Mechanics and Hydrostatics for Beginners, 12mo, 4s. 6d. cl.
Lyall's (Sir A.) The Rise of the British Dominion in India, cr. 8vo, 4s. 6d. cl.
Major's (H.) The Teacher's Manual of Lessons on Domestic Economy, cr. 8vo, 4s. 6d. cl.
Mallet's (C. E.) The French Revolution, cr. 8vo, 3s. 6d. cl. (University Extension Manual.)
Ornithology in relation to Agriculture and Horticulture, by Various Writers, edited by J. Watson, cr. 8vo, 3s. 6d. cl.
Pellet's (C. E.) Manual of Practical, Medical, and Physiological Chemistry, 8vo, 16s. cl.
Plutarch's Life of Demosthenes, with Introduction, Notes, and Index, by Rev. H. A. Holden, 12mo, 4s. 6d. cl.
Proctor's (R. A.) Other Worlds than Ours, cr. 8vo, 3s. 6d. cl. (Silver Library.)
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THE EDUCATIONAL TIMES.

LONDON, MARCH 1, 1893.

It is not yet possible to calculate the chances of legislation on secondary education by the new Parliament. There was no mention of the subject in the Speech from the Throne, and it has been made clear by the utterances of responsible ministers that the Government does not intend to introduce any educational measure this session. Two Bills have been brought in: (1) a Bill "For the Registration of Teachers in Secondary Schools," backed by Sir Richard Temple and Mr. Roby; (2) a Bill "To Promote Secondary Education in England." The latter is to be read a second time on Tuesday, 7th March, and as it is the first order of the day on that date it is sure to be discussed. Beyond this we cannot predict its fate. This Bill is backed by Mr. Henry Hobhouse, Sir Henry Roscoe, and Sir John Lubbock.

Sir Richard Temple's Bill has been brought into as close an accord as possible with the recommendations of the Select Committee on Registration of Teachers. We are not yet provided with the text of the Secondary Education Bill, but we learn that it has undergone some modifications since its last appearance. We have a forecast of these modifications in some speeches by the members whose names are attached, and in the report of the National Association for the Promotion of Technical and Secondary Education, which is promoting the Bill.

This report states that the first of the alterations refers to the position of private schools, including all the proprietary schools. "Although the Committee are of opinion that it is impossible to propose to the House of Commons that grants from either imperial or local funds should be made to schools instituted for private profit, they see no objection to allow County Councils, if they think fit, and under such conditions as to efficiency and inspection as the local authority may prescribe, to award scholarships and exhibitions to be tenable at such schools. In the opinion of the Committee, there is ample room for the profitable existence of efficient private schools, especially those of higher rank, alongside of those which may be established or aided by local funds. Nor is it the wish of the Committee, or of those who are introducing and supporting the Bill, that private schools which are of proved efficiency should be overridden by new public schools. Local public opinion, as expressed by the local authority, must decide as to how far the provision already existing for the secondary education of the inhabitants of the district is sufficient and suitable or otherwise, and the Executive Committee believe that in taking action upon the report which has to be made (under Clause 6) to the local authority, as to such existing provision, that authority may

be trusted to safeguard institutions of proved efficiency. A further proposal made in the present Bill is that the desirability of associating teachers with the Secondary Education Committee should be specifically expressed."

This report was presented at a so-called conference "on the needs of the country with regard to the organization of secondary education and the legislative measures required to supply them," held at the rooms of the Society of Arts, the Duke of Devonshire, President of the National Association for the Promotion of Technical and Secondary Education, occupying the chair.

This "conference" was not invited for the purpose of free discussion, but rather to enable the leaders of the Association to explain their views. The Duke of Devonshire told the meeting that the Association had always felt that secondary education was inseparably connected with technical education; and, admitting that the present system of secondary education was in many respects lamentably deficient, yet there existed a considerable number of grammar, endowed, and private schools, which ought to be made use of in any general reorganization of intermediate education.

This view was also expressed in the report, in the following emphatic paragraph:—"The committee desire it to be understood that they have no intention of proposing that existing efficient secondary schools should be turned into purely technical schools. What they wish to point out is that a need exists for the co-ordination of such schools, and to insist that provision must be made for a sufficient number to act as continuation schools, for the purpose of enabling scholars from the elementary schools to bridge over the unoccupied space which now exists between the end of the primary instruction and the commencement of industrial life."

It is evident, therefore, that on all sides there is a very general agreement as to the main principles to be followed in the legislative measures now looming in the near distance. Most of these principles are distinctly enunciated in the Report of the Special Committee of the College of Preceptors. The resolutions contained in this report were adopted by the Council at its last meeting, and, as they are most important, we give them in full for comparison with the above statements. They are as follows:—

1. That, in any scheme for the improvement of secondary education, the passing of a Bill for the Registration of qualified Teachers in Secondary Schools, public and private, and the eventual exclusion of unregistered persons from all schools desiring public recognition, is of primary importance.

2. That a Registration Bill should precede any measure for the promotion of secondary education of a more extensive character, as the knowledge gained by an educational authority to be constituted by such a Bill would be of the greatest value in any legislation affecting secondary schools; or that, at any rate, it should be proceeded with *pari passu*.

3. That the action of any local authority constituted for the purposes indicated in the Bill should be controlled by some central authority.

4. That such central authority should not be the same as that entrusted with the control of primary education.

5. That the central authority should include persons of practical experience in teaching, and fairly representative of the teaching profession.

6. That provision should be made for the appointment of educational experts, with practical experience, to serve on any local committees that may have to inquire into secondary education in their respective neighbourhoods, or to administer funds provided for it.

7. That, in estimating and providing for the wants of each locality, private schools, conducted by duly qualified teachers, in suitable buildings, with an adequate staff, and with the necessary apparatus and appliances for teaching, should be recognised as efficient; and that due precautions should be taken against injuriously affecting their interests.

8. That the efficiency of secondary schools should be certified by educational experts, or by examination and inspection by recognised public

bodies, and should not be decided by persons unacquainted with secondary education.

9. That, when public assistance to secondary education takes the form of scholarships, exhibitions, or prizes, the pupils in efficient private schools should be allowed to compete for them on an equal footing with the pupils of public schools, and that exhibitions or scholarships from schools of a lower grade should be tenable at efficient private schools.

10. That facilities should be afforded for efficient private schools to become public schools by being handed over to the authority appointed for secondary education, on such terms and conditions as may be satisfactory to all parties interested in the transfer; and that provision should be made for the compulsory acquisition of the sites on which such schools are erected, and the buildings in which they are carried on.

11. That the governing bodies of newly erected schools should contain a permanent element, appointed by the Universities or other distinctly educational bodies.

Although some of these proposals are supported more keenly by some sections of educationists than by others—as Sir Henry Roscoe learnt on his visit to the Teachers' Guild of Manchester—yet there is a very general acceptance of the substance of the whole of them, and there should be no great difficulty in framing the details of the two Bills so as to make them agree with the principles which are generally accepted.

It is already, we think, abundantly evident to every one how useful, in the fast approaching organization of secondary education in England, will be the reforms and experiments which are being carried out in Welsh schools; and, unless we are very much mistaken, when the time comes for another attempt to establish a Teaching University for London, we shall find many a valuable hint in the charter which is being drafted for the proposed University of Wales. This being our opinion, we make no apology for laying before our readers an outline of the charter as it at present stands—our task in doing which is considerably lightened by the admirable memorandum on the subject which has been drawn up by Dr. Isambard Owen, at the direction of the Draft Charter Committee, and which now lies before us.

The idea steadily kept in view throughout, by the Committee, is that the main purpose of a University is the promotion of sound education; that sound education means training as well as learning; that the degrees of a University should be evidence of both; and that these degrees should be given upon the results of a well-considered plan of University study, pursued under competent teachers and a responsible management. The form of the proposed University is that of a federal organization, to a great extent on the lines of the Victoria University—a central body armed with powers of graduation, controlling and co-ordinating thereby the courses of teaching carried on in the public teaching institutions actually in existence—but it differs from the form of that University in some important particulars, especially as regards the part in University work assigned to the constituent colleges. The central graduating body can and ought, by its examinations, adequately to safeguard the standard of learning, while the responsibility of the teaching institutions in respect to the equally important standard of training, of which examinations can never be more than an imperfect test, should not be entirely abrogated or thrown upon the central body. It is proposed, therefore, that the authorized teaching bodies should be made fully to realize their educational responsibility to the public, and that they should be put in a position in which they can efficiently discharge it. The constituent teaching institutions are accordingly left with much

more freedom of action in respect to teaching than is the case in the Victoria plan; and the initiative in educational matters will rest mainly in the hands of the individual colleges. "Curricula" and "syllabuses" are not to be imposed on the colleges from above. Each college is to be entitled to frame, and to offer for the University's acceptance, plans of study and of examination for its own students as qualifications for all primary degrees, the University being charged with maintaining the equality and sufficiency, but not necessarily the uniformity, of the requirements exacted from each college. In other words, each college is to be left as much educational freedom as is compatible with the maintenance of an equal and sufficient standard for degrees, and the professors are to exercise, as far as possible, a rational liberty to give the best thought that is in them to their pupils.

In such a system, which we have rather indicated than described, there are, of course, certain dangers to the standard of the University, against which adequate precautions have to be taken. It is hoped that such precautions have been fully taken in providing against the acceptance of any plan of study or examination without ample and expert consideration. Every such plan, before being presented to the governing body, must be submitted to the scrutiny of a strongly-constituted academic board—the University Senate—after which, provided that the Senate is satisfied with its academic details, the proposal will pass on for the consideration and acceptance of the University Court. Subsidiary provisions prevent, on the one hand, the legitimate interests of the colleges from being overborne by the Senate, and secure, on the other, that the Senate's opinions shall not be lightly set aside; though in this, as in all matters, the ultimate authority is left with the public governing body. The provisions for the conduct of degree examinations, as at present proposed, are in the main the same as those of the Victoria Charter, but are framed so as to give the *external* examiners what seems to us a more assured control; and, though University examinations may be held in individual colleges, the same external examiners, we understand, will conduct them all. The appointment and control of the professors of the colleges are, we may add, to be left as at present; and provision is made for "University Extension."

The seat of the University is not to be localized. It is recommended that the Court should visit each college in yearly succession, but should otherwise be free to meet where the convenience of its members may dictate; that the office of the Court should be located at the discretion of the Court, and that the seat of academic executive should pass from college to college in turn—very much, in fact, as it does at present in New Zealand.

The construction of the University Court—the public governing body—offers some novel features. Such, for instance, is the presence on it of representatives of the County Councils, of the head teachers of public schools, and also of the future Central Intermediate Board. The proceedings of this Court, both deliberative and executive, are to be regulated by express statutes, drawn up within a fixed period of its first appointment, but alterable, at any time, with the consent of the Visitor. The Chancellor, it seems, is not to be a dummy, but the actual President of the Court; and the Vice-Chancellor is not to be his deputy, but a purely academic officer, and Chairman of the University

Senate. We note, also, that a "Guild of Graduates" is to be instituted, with power to hold property independently of the University Court, and to devote it to the promotion of scholarship and research. That complete liberty of opinion, and the equal educational rights of women, are recognised, we need scarcely say.

Such, in briefest outline, are the main features of a scheme which shows throughout the marks of wise and careful consideration. We have little doubt that, practically, it will be the scheme put into operation in the near future.

It would appear from sundry indications that we are not unlikely to see some rather startling developments of Free Education before the end of the century. To provide gratuitous schooling for all, is, it is beginning to be felt, not the whole duty of the State in this matter. Plainly, such provision can only be of use to those who can take advantage of it. The discovery has been made that large numbers of children attend school breakfastless and insufficiently clad, that is, in a condition of body and mind in which it would be positively cruel, even if it were possible, to put them through the same course of instruction as that of their properly fed schoolfellows. What is to be done with such children? "Feed them and clothe them at the cost of the community," is the short and simple answer. This was the course that a deputation which waited on Mr. Acland, the Vice-President of the Council, two or three weeks ago, unmistakably indicated. Mr. Hyndman, the spokesman of the deputation, indeed, contended that if it were necessary to place the cost of providing a meal upon the rates, even then it would, in the long run, be a saving, inasmuch as there would be fewer inmates of lunatic and other asylums, less necessity for charity, and healthy young men and women in the place of the decrepit and stunted individuals who were to be seen amongst us. He went on to say that the system that he and his friends sought to have carried out, had been adopted with success in Paris and other cities of France, where every child had a gratuitous meal provided for it in the middle of the day. Necessitous children were also furnished with an outfit, so that they were able to attend school in any weather in a well-clad condition. The fund to meet such outlay was provided, it was stated, from two sources, one being from the voluntary charitable associations of the district, and the other from grants of the Municipal Council. Parents able to pay a penny each for their children's meals were, however, allowed to do so.

The concluding sentence of Mr. Hyndman's speech put the dilemma of Compulsory Free Education in a form in which it evidently had been much revolved on by the Vice-President. The "interests of humanity" were at stake, and so "children who were compelled to attend school should, if necessitous, be properly fed and cared for." Never before, we should think, did a deputation interview a Cabinet Minister so well disposed towards giving the relief asked for. Mr. Acland made no very successful attempt to play the part of "your safe man," so felicitously satirised by Cardinal Newman; he was not greatly concerned to steer with even keel "through the channel of no-meaning between the Scylla and Charybdis of Aye and No." He was not, indeed, strictly logical, nor did he seem always conscious of the far-reaching conse-

quences to which he was committing himself. Now and again he seemed to be slipping into the mental attitude of Newman's "safe man," "who never enunciates a truth without guarding against being supposed to exclude the contradictory," as when he expressed the opinion "that it was useless to make heavy mental demands upon the children unless their bodies were reasonably well fed, and that in schools, at any rate, all reasonable care should be taken to bring the children on a level with one another," and yet he "did not want to undermine the sense of responsibility, or to do anything that would discourage the family or home-life."

The Vice-President, however, on the whole, made no concealment of his disposition to assent generally to the views of the deputation. He had always, he told them, "felt that the outfit which school children were receiving, whether in relation to their bodies or their minds, was of the highest importance for the future social and industrial welfare of the country." Referring to the plan of feeding children as it is practised in Paris, he said he had seen the children receiving their meals in some of those admirable Paris schools, and he watched with the greatest interest the way in which matters were arranged so that no distinction should be drawn between the child who paid for its meal, and the child whose parents were unable to do so, but who deserved the same care and attention. That was done with the greatest delicacy and care, so that nobody knew except the teachers which of the children had paid for its meal and which had not.

Dealing with the practical suggestions of the deputation, Mr. Acland pointed out certain difficulties in the way of authorizing School Boards to pay out of the rates for free meals, and expressed his preference for delegating that duty to County Councils. "Some day," he said, "a great municipal body like the London County Council might desire to have the power to make from time to time grants in the manner indicated. He had always been in favour of a very considerable freedom of choice of that sort being given to the municipalities of this country."

Although he was not prepared to undertake legislation at present, in the direction desired, "personally," the Vice-President "felt that, when the powers of the London County Council were developed, if they were anxious to have powers to make grants in that direction, like the Paris municipality, they ought to be free to do it."

The laxity with which statesmen are prepared in these days to entrust the violation of general principles and maxims of government to local authorities, bids fair to raise a crop of difficulties, social and financial, at no distant date, which it will sorely tax the resources of the country to meet. We sow the wind; our children will reap the whirlwind. To attempt to bring all children—those of the idle, dissolute drunkard and the sober, frugal, industrious workman—to the same level in the schools, is indeed a large order.

If a Minister of Education dreams that he can bring up a vigorous and independent race by creating an artificial equality in conflict with nature, to carry out his scheme, he will, we fear, have to begin the equalizing process before the school age, and may even have to look favourably at such a method of selected infanticide as obtained amongst the Spartans.

to Parliament its "Calendar, History, and General Summary of Regulations" for the current year. At a time when the Department is likely to undergo some further development or modification in connexion with the organization of secondary education, a history of its former transformations and adaptations must be more than ordinarily interesting. Like other modern Government departments, it traces back its origin to the recommendation of a Parliamentary committee. In the year 1835 a Select Committee of the House of Commons was appointed, on the motion of Mr. William Ewart, M.P. for Liverpool, "to inquire into the best means of extending a knowledge of the Arts and of the Principles of Design among the people (especially the manufacturing population) of the country." This committee reported in 1836, and recommended the establishment of schools of design. In accordance with this recommendation, the Lords of the Committee of the Privy Council for Trade made the very modest proposal, judged by modern standards, to the Lords of the Treasury, that a sum of £1,500 should be taken in the estimates for the establishment of a Normal School of Design, with a museum and lectures. The Treasury having consented, the then President of the Board of Trade, Mr. Poulet Thompson, set about carrying out the intentions of the Legislature in a thoroughly English fashion. He called a meeting of certain Royal Academicians and others interested in art. These gentlemen were, in 1837, constituted the "Council of the Government School of Design," the members being unpaid, and the Vice-President of the Board of Trade being an *ex officio* member of the Council—voluntary effort, as so often since, thus playing the chief part in the organization of the new institution.

In 1841 the Government decided to assist in the formation and maintenance of schools of design in the manufacturing districts, giving an annual grant for the training and payment of teachers, for the purchase of casts and the preparation of models for the use of schools. In 1842, the Board of Trade reconstituted the Council, increasing the number of members to twenty-four, and placed the School of Design under the management of a Director, who was to be controlled by the Council. The parliamentary vote for schools of design, which was administered by the Board of Trade, had increased in 1851–2 to £15,055, there being seventeen branch schools in various large centres of industry, which absorbed about one-half the vote. An inquiry into the condition of those schools showed that they were not working satisfactorily. New principles of management were therefore introduced in 1852. The Council was abolished and a "Department of Practical Art" was constituted, with a General Superintendent and an Art Adviser. The next new departure was made in 1853, when the scope of the Department was enlarged, a science division being added, and thus the "Department of Science and Art" was created. This Department remained under the control of the Board of Trade until the Education Department was constituted by an Order of Council of the 25th of February, 1856, to include "The Educational Establishment of the Privy Council Office," and "The Establishment for the encouragement of Science and Art, now under the direction of the Board of Trade, and called the Department of Science and Art." These two departments have ever since continued under the Lord President of the Council, assisted by the Vice-President, who acts under the direction of the former,

and for him in his absence. *Pari passu* with these various transmutations the cost of the Department increased until, in 1856-7, it had reached the sum of £64,675, which however is only a little more than a tenth of the expenditure of the Department last year, which amounted to £605,954. The Technical Instruction Act, 1889, enables the Council of any county or borough, or any urban or sanitary authority, to levy a rate to supply or aid the supply of technical or manual instruction. Following this Act came the Local Taxation (Customs and Excise) Act, 1890, which places at the disposal of local authorities in England, Wales, and Scotland, considerable sums of money applicable to science and art and technical education. The majority of the English County Councils are giving the whole amount thus receivable to technical education. In Wales and Monmouthshire nearly the whole amount available is being applied to education, including intermediate education under the Welsh Intermediate Education Act, 1889. The working of schemes under these two Acts frequently overlaps the operations of the Science and Art Department, and results in the waste of public money. It is therefore clearly desirable, not merely in contemplation of the expected legislation in reference to secondary education, but to prevent waste and chaos in the direction of technical instruction by the various bodies now concerned, in one way or another, in its advancement, that some central controlling machinery should be devised for that end. We are very much mistaken if the Departmental Committee, now sitting at Whitehall, does not recommend that the controlling body should be the Science and Art Department. Mr. Acland is not likely to find any opportunity this Session for dealing with contentious legislation, but there is no reason why all parties should not agree to some arrangement which would prevent the waste which is now being committed and would supply the much-needed expert guidance to local bodies.

REVIEWS, NOTICES, &c.

A History of Modern Europe. By C. A. Fyffe, M.A. In three vols., with Maps and Illustrations. (Cassell & Co., 7s. 6d. each vol.)

This history covers the last century, with the exception of the last ten years. Vol. I. extends from the outbreak of the revolutionary war in 1792 to the accession of Louis XVIII. in 1814; Vol. II., from 1814 to 1848; and Vol. III. from 1848 to 1878. The whole forms a well-written and clearly intelligible story of the working of the forces let loose by the revolutionary war beginning in 1792. It is intensely interesting to one who has a partial knowledge of some of the great events it describes, because of the rational way in which it links together these events by significant facts gathered from State papers and equally reliable sources.

In the revision of the earlier edition of the first volume, Mr. Fyffe tells us that he has occupied himself mainly with two sources of information—the unpublished records of the English Foreign Office, and the published works which have, during recent years, resulted from the investigation of the archives of Vienna.

"The English records, from 1792 to 1814, include the whole correspondence between the representatives of Great Britain at Foreign courts and the English Foreign Office; communications between Ministers and these representatives; reports from consuls, agents, and 'informants' of every kind, and the military reports, often admirably vivid and full of matter, sent by the British officers attached to the headquarters of our allies in most of the campaigns from 1792 to 1814."

One conclusion, to which the perusal of these records has led the author, is that—

"no just conception can be formed of the difference between English

statesmanship and that of the Continental courts, in integrity, truthfulness, and public spirit, until the mass of diplomatic correspondence preserved at London has been studied, nor, until this has been done, can anything like an adequate biography of Pitt be written."

With regard to the third volume, the author tells us he has not had the advantage of consulting the English Foreign Office records for a later period than the end of 1815, because a rule, not found necessary at Berlin and some other foreign capitals, still closes to historical inquirers the English documents of the last seventy years. This deficiency of information happens to be made clear by the biography of Lord Aberdeen, published during the last month, and written by the Honourable Sir Arthur Gordon, G.C.M.G. What are the references to Lord Aberdeen in the work before us? First, to some early dispatches in 1813; second, to the battle of Leipsic; third, to the Spanish marriage question; and fourth, to the Crimean War. We will compare the recent biography with Mr. Fyffe's account of these last two points.

"Louis Philippe had demanded, in 1846, that Queen Isabella's husband should be limited to the Bourbons of the Spanish or Neapolitan line. To this claim Lord Aberdeen, who had become Foreign Secretary in 1841, declined to give his assent. Louis Philippe now suggested that his youngest son, the Duke of Montpensier, should wed the Infanta Fernanda, sister of the Queen of Spain. On the express understanding that this marriage should not take place until the Queen should herself have been married, and have had children, the English Cabinet assented to the proposal. That the marriages should not be simultaneous was treated by both Governments as the very heart and substance of the arrangement, inasmuch as the failure of children by the Queen's marriage would make her sister, or her sister's heir, inheritor of the throne. This was repeatedly acknowledged by Louis Philippe and his minister, Guizot, in the course of communications with the British Court, which extended over some years. Nevertheless, on the 10th of October, 1846, the marriages of Queen Isabella and her sister, as arranged by the French Ambassador and the Queen-mother, were simultaneously solemnized at Madrid. Few intrigues have been more disgraceful than that of the Spanish Marriages; none more futile. The course of history mocked its ulterior purposes; its immediate results were wholly to the injury of the House of Orleans. The cordial understanding between France and Great Britain, which had been revived after the differences of 1840, was now finally shattered. Louis Philippe stood convicted before his people of sacrificing a valuable alliance to purely dynastic ends; his minister, the austere and sanctimonious Guizot, had to defend himself against charges which would have covered with shame the most hardened man of the world."

This incisive criticism is modified by Sir Arthur Gordon's interesting and important statements of the facts connected with these intrigues. It appears that, if Lord Aberdeen had remained Foreign Secretary in 1846, the question would have been amicably, straightforwardly, and satisfactorily settled, and that the charge of duplicity which has ever since attached to Guizot and to Louis Philippe might be preferred with some show of plausibility against Lord Palmerston and his diplomatic agent at Madrid. Sir Arthur Gordon's conclusion, after reviewing the whole transaction and throwing a flood of fresh and authentic light on it, is: "No charge of breach of faith can justly be preferred against M. Guizot and the King. Nevertheless the course taken by the French Government must be deplored, and may be censured. The friendship of England was worth more to Louis Philippe than the dowry of the Infanta."

Mr. Fyffe makes no attempt to renew the usual charge against Lord Aberdeen of being the minister responsible for the Crimean War, and in his most interesting account of the causes which led up to the war, and of its disastrous course, he justly apporions the responsibility. Sir Arthur Gordon's accurate knowledge of facts and documents, not hitherto made public, enables him to throw much new light on one of the most obscure and tangled passages of our recent history. It is certain that Lord Aberdeen was driven forward by forces which he failed to master and direct. His share of responsibility for the Russian War weighed heavily, and even touchingly, on his heart and conscience, and his countrymen would do him a great injustice if they thought of him only as the Prime Minister who drifted into war. His responsibility was shared by Palmerston and Lord John Russell, as well as by some statesmen who are still living. There are many other points in this third volume of Mr. Fyffe's history which are brought by him a stage nearer the clear light.

Tropical Agriculture. By H. A. A. Nicholls, M.D. (Macmillan.)—"Respite finem," on the title-page of this book, is a happily chosen motto, with the flavour—not too pungent—of a pun. Part I. contains just what one finds in any agricultural manual,

soils, plant food, all the manures—farmyard, green crop, bone, and chemical—the rotation of crops, and the like; only at the end of the part does the tropical touch come in, with irrigation, and the mention of the earth chisel, grubber, and cutlass, as agricultural implements. We had most of this first part before elsewhere, and so went through it, in our capacity of reviewer, without, it must be confessed, any very keen interest or delight, though it certainly seemed good and clear, and quite reliable. But Part II. is, for the English reader, newer matter and extremely good reading. The crops dealt with are coffee, cacao, tea. They have, by the bye, about thirty acres of tea flourishing in Jamaica, and there seems to be every possibility of the West Indies exporting this leaf before many years have gone, though at present most of the tea consumed there comes from Ceylon *viâ* Europe. Then comes the sugar-cane, a diminished glory so far as the West Indies are concerned, though the economy of the “usine” system, by which refining is carried on at a big central factory, has reinstated some of the small plantations. Oranges follow. The Florida orange plantations, we learn, are not altogether free from the risk of a frost, which will sometimes kill back the orchards, and stop production for several years. Jamaica, the Bahamas, and Dominica, do not suffer from this trouble, and they are competing more and more successfully with Florida and California for the United States market. Lemons are another West Indian product that promises well, but the fruit-eaters of the world have still to grasp the possibilities of the lime, which is as yet grown chiefly for its juice, in Montserrat and Dominica. Bananas, plantains, and the ubiquitous cocoa-nut come next. Does everybody know that the cocoa-nut palm, besides its nut, its “coir,” its leaves, and its arrack “toddy,” produces the porcupine wood, and *pearls*! of which latter product Kew boasts a very fine specimen? The spices follow. It would be an interesting modification of the ordinary geographical lesson on the Indies if one were to tell the story of the Dutch spice monopoly in the Moluccas. These sturdy protectionists were especially jealous of the nutmeg and clove. They restricted the trees to a definite number, and burnt part of too abundant crops, to keep down the output. But the French found clove plants in one of the unoccupied islands, and carried it to Mauritius, and the nutmegs were sown out of Dutch reach, it is suspected, by wild birds. A similar monopoly was established, by the Dutch and Portuguese, in cinnamon, and the unauthorized sale of a single stick was punishable by death. This ended abruptly when Ceylon fell into British hands. Cinnamon, cardamom, vanilla, and tobacco cultivation are described fully, and then comes the cinchona tree. Early in this century the world almost lost quinine. Till then it was a South American forest product, and the Peruvian bark collectors felled the trees and stripped them, and left them to decay, making no provision for their replacement, so that the drug became scarcer and dearer every year. Kew and the Indian Government came to the rescue in time; explorers obtained plants, and trees are cultivated to-day in India, Ceylon, Java, Jamaica, and Martinique, and even poor people now may take more quinine than is good for them. And so we might continue with these notes, but we have already said enough to show how readable and useful this book will be to the teacher. He will find facts to animate the whole of his tropical geography, and indeed we think the book is well worthy of a place in every school library. It is well illustrated. As a handbook for the planter, it, of course, has no rival.

Am Ende der Schulreform? Betrachtungen von W. Rein, Jena. (H. Beyer und Söhne, Langensalza, 1893, M. 1.50).—This small volume consists of a short series of lectures on educational problems of present-day interest. They were given by Professor Rein (who is Stoz's successor in the Chair of Pedagogics at Jena) during last year to a class of students, and are now offered to a wider audience. They will interest the English reader of German pedagogics, firstly, because they contain a bright sketch of the development of German education by way of introduction to the main theme; secondly, because they deal in part with questions which are of interest to us in England at the present time. In particular we have a clear exposition of opinion as to the training of secondary teachers, followed by a bibliography of the literature which has been contributed to this subject. While accepting the recently established *Gymnasial Seminar* as a step in advance, Professor Rein affirms that the next step must be to establish pedagogic training courses in every Prussian University. No less interesting is his account of the various parties of reform which are now agitating educational circles in Germany, and which have been by no means

quieted by the conclusions of the famous Berliner Dezember Konferenz. For the English reader, the book has one great advantage: it is written in short concise sentences, which resemble an English rather than a German professional style. As an example, we may quote the paragraph in which he defends the incorporation of Pedagogics among University studies by the familiar analogy of Medicine:—

“Sonderbar, wenn es sich um die Gesundheit des lieben Leibes handelt, hört sogleich alle Konsequenz auf. Da heisst es sofort; wie kann man so gewissenlos sein und die jungen Aerzte auf der Universität nur mit theoretischer Bildung ausstatten wollen! Die Uebertragung der Theorie auf Einzelfälle in der Praxis will doch gelernt, will erfahren, will geübt sein, ehe man das Menschenwohl dem praktizierenden Jünger anvertrauen kann. Aber auf dem Gebiete der Pädagogik? O, da liegt die Sache ganz anders. Da handelt sich's ja blos um die Gesundheit der Seele; da stirbt man ja nicht gleich, wenn man auch ganz verkehrt behandelt wird. Und doch ist anerkanntermassen die Pädagogik genau so wie die Medizin *Wissenschaft und Kunst*. Beide, Theorie und Praxis, müssen sich gegenseitig durchdringen.”

Professor Rein is a devoted follower of Herbart, but he is happily free from those obscurities of style and language which put the great German teacher almost beyond the reach of the foreign reader.

Text-Book of the Embryology of Man and the Mammals. By Dr. Oscar Hertwig. Translated by Professor Mark. (Swan Sonnenschein.)—We very gladly welcome this American rendering of Dr. Hertwig's *Text-Book*. The time has, at last, arrived when that dear old companion of the budding comparative anatomist, his stimulating and suggestive “Balfour,” must be replaced by some work embodying the large amount of criticism and investigation that has, in the last few years, been directed to embryological problems. Especially is this the case with the second volume of Balfour, which the book before us might, more or less, entirely supersede in the student's reading. The luminous interpretation of the mammalian segmentation, the morula, pseudo-blastopore, and primitive streak, by the successive consideration of the development of *amphioxus*, dog-fish, amphibian, and sauropsidian, for instance, was scarcely possible in Balfour's time, and the treatment of the primary germinal layers as a folding consequent on a relative hypertrophy, is also new and attractive. In another matter, too, of profound morphological importance—the distinction drawn between mesenchyme and the walls of the coelomic pouches—this book brings the most modern views within reach of the student of text-books. The very suggestive work which is now being done with regard to the connexion between retrogressive changes and the concentration of lymphoidal tissue, has, however, found very little recognition in this work, and the development of thymus and thyroid glands is described without any speculation. The usual interpretation of *malleus*, *incus*, and *stapes* is given, without any indication that this has recently been criticized, and the superannuated figures of Rathke, showing the embryonic vascular arches, with the pulmonary artery as the *fifth* branchial arch, are used, with, however, a recognition of the new version of the matter in the text. We are surprised, however, to find that, in the face of Kölliker's work in this direction, the *uterus masculinus* is still identified as the distal end of the Müllerian duct. The book is well illustrated, and many of the figures of His become now accessible in an English publication. We may also notice, as a great merit, the abundant bibliography, which, however, does not appear to have been brought down beyond 1890. In this last point it seems to us that the translator has missed a distinct opportunity, but this may very well be remedied in the later edition which may presently be required.

Heath's Modern Language Series. Goethe's Faust. Edited by Calvin Thomas. Volume I.: the First Part. (Crown 8vo, pp. lxxxii., 353, price 5s. Isbister & Co.)—Mr. Calvin Thomas is Professor of Germanic Languages and Literature in the University of Michigan. He gives us a little preliminary shudder in his preface, when he says: “I have wrought as a philologist and a lover of definiteness.” But a little later he reassures us by stating that he has “avoided any attempt to do the work of an etymological dictionary or a historical grammar. . . . Philological lore, which would have been news to the author, and does not contribute to a proper understanding of the author's meaning, is, in general, out of place, and entitled to no better name than pedantry.” So we think; and we are quite in accord with the opinion that “the one great purpose of the editor's notes to a classic should be to help the reader to enter more perfectly than he otherwise might into the thought and feeling of the author.” With another view of Mr. Thomas's, however, we are not inclined

to be so much at one. As we all know, there is an immense amount of critical literature on the subject of Goethe's *Faust*. Mr. Thomas tells us that his plan has been to study the original, then to read what the various commentators have to say, and then "to present my final conclusion without argument." This would be quite right were the edition for school boys and school girls; but it is plainly meant for much more advanced students, and these require other learned opinions besides Mr. Thomas's, and they require some amount of argument as well. The "introduction," which runs to seventy-six pages of small type, is well written, interesting, and decidedly helpful. It is evidently the result of much study and careful thinking. It does what so few introductions ever do: it places the student in the right position for understanding and enjoying the play which is to follow; and it introduces no more biographical details of the author than are absolutely necessary to effect this purpose. Whether the views set forth will meet with the approval of every one is another matter. But we have not noticed any which are not reasonable, and soberly and well put. Good, too, are the brief introductory remarks prefixed to the notes on each scene, and helpful much in the same way as the general introduction. But the "notes" themselves offer but little scope for comment. All that can be said of them is that they are useful and generally well-informed. Two appendices are added at the end—one on the bibliography of the subject, and the other on the text of the play. The text in the body of the book, by the way, is that of the "Weimar" edition; and modern "official" spelling has not been introduced. The play is well and clearly printed, and the volume is neatly bound. Altogether, the edition is one which can be, if not with enthusiasm, at any rate with perfect safety, recommended to students of *Faust*.

Essays on Lord Tennyson's Idylls of the Kings. By Harold Littlehale, M.A. (Macmillan, 4s. 6d.)—These essays on Tennyson's "Idylls" were written as the basis of a course of lectures to an audience composed of undergraduates in an Indian college. Nevertheless, for readers of Tennyson all over the world, the volume is a convenient summary of much information that is dispersed through many books. The sources of the various "Idylls" are very closely traced, and at the end of each study on the sources, are notes on the text. Lest the frequent citations of parallel passages in these notes should seem to impugn the poet's originality, the author gives an explanation as follows:—

"Not the least of the many charms of Tennyson's poetry is the seeming combination of originality and allusiveness in a profusion of passages that mingle their own fresh music with dim unconscious echoes of poets dead and gone. To indicate such echoes, and not in any way to suggest that the late Laureate imitated his predecessors, has been the writer's object in noting so many parallelisms."

The successive chapters treat of "The Arthurian Legend," "Characters and Localities," "The Prologue and Epilogue," "The Coming of Arthur," "Gareth and Lynette," "Geraint and Enid," "Balin and Balan," "Merlin and Vivien," "Lancelot and Elaine," "The Holy Grail," "Pelleas and Ettarre," "The Last Tournament," "Guinevere," "The Passing of Arthur." The work is, undoubtedly, helpful for real students of the originals, but if it should tempt anyone to acquire material for criticism and comment, without a study of the originals, it would, in such a case, do harm. This the author himself acknowledges in the following terms:—

"Critical study of an author is very well in its way, and useful as a preparation for the appreciation of a poem. But it is only truly useful in the sense that the study of the sciences help our appreciation of the works of the Creator. Such learning is a means, and not the end. We must look at nature with direct eyes, and not through the medium of books, if we would commune with the spirit of nature; and we must read poetry, not for the sake of the particles of literary dust that adhere to it, but for its own sake, and for the poet's sake, sincerely and sympathetically. Only by doing so can we really bring our own small hearts into contact with the large heart of the poet."

Literature Primers: Chaucer. By Alfred W. Pollard. (18mo, pp. 142, price 1s. Macmillan.)—The little books in this series of literature primers have long ago been recognised by every one as being excellent of their kind—written with good judgment by real authorities on their subjects—and Mr. Pollard's *Chaucer* will be found to be in no way inferior to the others. It is a brief but very careful and scholarly account of all that is at present known of the poet, his life and his works, and of what is half-known or only probable. In so small a space, criticism and exposition, properly so-called, are naturally very difficult or almost impossible; but Mr. Pollard has managed, with great skill and good judgment, not only to give the sources and subject-matter of all

the more important poems, but also to indicate their characteristic tone and point of view, and, to a certain extent, their style. His book is not meant, we think, for the absolute beginner, but rather for one who, having studied his Chaucer somewhat, is anxious to pause and sift and arrange what he has learnt, before he plunges more thoroughly into his subject. The keynotes of the book are scholarly caution, and moderate but genuine appreciation. Closely packed though the pages are, we have read them with very real pleasure from beginning to end. Though small in size, the primer is a contribution of undoubted value to a sounder and clearer knowledge of the poet.

Arnold's School Series.—An Introduction to English Grammar and Analysis. By Francis Bond, M.A. (Cr. 8vo, pp. viii. and 166; price 1s. 6d. Mr. Edward Arnold.)—It is with a feeling very like one of dismay that one finds in one's hands another English grammar which, like so many books of the kind, claims to deal with its subject in a new and original way. Mr. Bond, however, is very modest in his claims, and there is much in his book which is freshly and vigorously put. But, alas! there are many old errors in his pages, and some which are, as far as we know, newly invented. He tells us, in his preface, that "it is misleading to treat the English language as if it were synthetic like Latin," and yet he gives us declensions of nouns with nominative, objective, vocative, and possessive cases; gender is confused with sex; a pronoun is still a word used instead of a noun to avoid repeating the noun (though this is only true of demonstratives and personal pronouns of the third person); a science is described as "all that is known about any one subject" (a house might as well be described as all the materials out of which it is built); a strong verb is one whose past tense is formed by altering the characteristic vowel sound; and so on. But, on the other hand, prepositions are treated particularly well, and, as a whole, analysis is dealt with in a clear and logical manner. Good too, though not new, is the constant insistence on the sentence as the unit, and on the function of the word in the sentence as the key to its grammatical explanation. Indeed, in spite of its occasional faultiness, the book is evidently enough based upon much practical experience in teaching, and is stimulative and suggestive in its mode of exposition. Still, we think that Mr. Bond would have done better had he consulted the grammars which he mentions in his preface, before instead of after, writing his *Introduction to English Grammar*. This would, amongst other things, have saved him, we think, from saying that "an inflexion is a change made in the form of a word to express a change in its meaning," instead of in the relation of its meaning to some other part of a statement; while, surely, it is somewhat Irish, when dealing with changes in the form of words, to give as examples, "am—was, bachelor—spinster." But we have done with fault-finding; and in conclusion we will say that we can strongly recommend the latter half of the book, which deals with analysis, to the attention of all teachers of English grammar.

Annals of British Geology, 1891. By J. F. Blake, M.A.—This is the second issue of this, for geologists, indispensable publication, and is certainly a very considerable advance upon its predecessor. We are sorry, however, to miss the list of papers read, but not published, which appeared in the latter. It might conceivably be very useful to an investigator to know what previous work had been done in his particular department, even if the results obtained were not sufficiently striking to affect a committee of publication. The "Personal Items" are also omitted, a distinct improvement, and Mr. Blake now restricts himself to foot-notes, instead of commenting upon papers in the course of the abstract. There are six plates of illustrations, counting all together one hundred and fourteen figures. Many of the papers have been revised by the authors, another new feature, and a decided improvement. Altogether, we must congratulate Professor Blake on this volume. But may we not have the third a little earlier? Some of the work in this issue has, by this time, got down to the level of popular literature. Another thing we would suggest is, that papers read before local natural history societies, and publications of the text-book and magazine essay types, might very well be omitted. The ordinary geologist can scarcely be curious about the opinions of Mr. Z. on "Fossils, and what they teach us," as delivered to the Y—Natural History Society.

OUR LIBRARY TABLE.

History Primers: History of England. By Arabella B. Buckley. (18mo, pp. 151, price 1s. Macmillan.)—It is somewhat difficult to understand for what class of students, young or not so young, this little book

is intended. It begins with palæolithic man and comes down to the return of Mr. Gladstone's party in 1892. The kinds of facts it largely deals with are not those particularly suitable to beginners, and it is far too much of an outline for those pupils who have made any progress; while its division into brief paragraphs, not very closely connected with one another, spoils its interest as a reading-book. Evidently the writer has had to dance in chains; and it is only fair to say that she has done her dancing gracefully and skilfully. Indeed, Mrs. Fisher could not, if she tried ever so hard, write a book which had not in it much that is pleasant, accurate, and well put; and here she has evidently tried to do her best with a difficult task. Those who like the primer-idea of history will find this little book a very good one of its kind. The facts and events are well selected and accurately treated.

The Political Value of History. By W. E. H. Lecky, LL.D., D.C.L. (8vo, pp. 57, price 2s. 6d. Mr. Edward Arnold.)—This is an edition in permanent form of Mr. Lecky's address as president of the Birmingham and Midland Institute, delivered in October, 1892. It is a very good bit of work in its way, but somewhat thin and brief for book-form. One's first inclination is undoubtedly to grumble at the scantiness of the fare, and the decidedly obvious nature of many of the remarks. But then one remembers that Mr. Lecky is almost the last of the distinguished literary men of the middle of this century; one remembers what he has written for us, and the style in which he has written it; and so one feels a little ashamed and turns to the address again and reads it a second time. It is then that the admirable literary style and the clearness and absolute sanity of the remarks come home to one. There is nothing in it which is not sound and true and excellently put, and this is not always the case with addresses. So one ends by being grateful, and one picks the book from the heap of those which do not come to stay, and sets it not untenderly on the shelf amongst other pleas for an earnest study of one's favourite subject.

Bell's Standard Elocutionist. New edition, completing 178,000. Enlarged by the addition of sixty-four pages; price 3s. 6d. (Hodder & Stoughton.)—This popular book of dialogues and recitations took the place of the old "Speaker," with about one hundred and twenty extracts. It has been again and again enlarged, and now contains over six hundred extracts, and as many pages.

English Classics for Schools.—(1) *Macaulay's History. The First Chapter.* With Introduction and Notes by A. G. Little, M.A. (2) *Shorter Poems by Burns, Byron, and Campbell.* With Introduction and Notes by W. Murison, M.A. (Percival & Co.)—A careful study of even a few pages of Macaulay will well repay the student of history, and teachers will feel grateful to the editor and publishers of this series for bringing the fountain-head within the reach of their pupils. Among the poems in the latter collection is "The Cotter's Saturday Night," "To a Mouse," "To a Mountain Daisy," and other gems of Burns's poetry. "Ye Mariners of England," "Hohenlinden," and that old favourite of the reading-books, "Lord Ullin's Daughter," are found among the writings of Campbell; while Byron is represented by "Adieu, Adieu, my Native Land," "The Isles of Greece," and "On this Day I Complete my Thirty-sixth Year." Notes are added to the poems, and a glossary to Burns.

The Classical Translation Library.—(1) *Homer's Odyssey, Book IX.* (2) *Virgil's Æneid, Book I.* (3) *Livy, Book XXVII.* (Hodder & Stoughton.)—In each of these little books the text is on the left-hand page, the translation, by Mr. T. S. Peppin, late Scholar of Keble College, Oxford, on the right. The books are neat in appearance and are sold at eighteenpence each.

Elementary Classics.—*P. Vergili Maronis Aeneidos Lib. I.* Edited for the use of Schools, with Vocabulary, by T. E. Page, M.A. (Macmillan.)—The first book of the Aeneid has been long in joining its fellows in the series of Elementary Classics, but is in no degree inferior to those that have preceded it in order of publication. The notes are brief, to the point, and helpful, while the vocabulary has been compiled with judgment.

Mareii Tulli Ciceronis Oratio Pro Lege Manilia sive de Imperio Cn. Pompei. With Marginal References, Notes, and Analysis of Text, and Passages for Translation into Latin. By the Rev. J. Hunter Smith, M.A. (Swan Sonnenschein.)—A desirable edition of one of the easiest of Cicero's speeches. The notes are mainly explanatory and grammatical.

French Irregular Verbs, with their Inflections in Alphabetical Order. By E. D. Williamson. (Hachette & Co.)—The plan of this book is as follows:—In one column are placed the inflections of the irregular French verbs, arranged in alphabetical order, in the next column are the infinitives to which they belong, in the third are the moods and tenses, and in the fourth the English rendering. By its use young pupils will overcome the difficulty of discovering the infinitives of irregular verbs when they meet with the verbs in their various moods and tenses.

The Teacher's and Private Student's Companion to the Second Course of Macmillan's French Composition. By G. Eugène Fasnaecht. (Macmillan.)—The difficulties to be overcome in "Macmillan's French Composition" are so formidable that a Companion will be appreciated. An appendix, containing translation of select passages from Green's "Short History of the English People," is also given.

Army, Woolwich, and Civil Service Riders: Geometrical Problems selected from the Examination Papers of the last Twenty Years. Arranged by the Rev. A. Dawson Clarke, M.A. (Longmans.)—The five hundred and fifty riders in this collection are arranged in chapters under the heading of the

various books of Euclid by the aid of the propositions in which they may be solved. The collection will be helpful and useful to army candidates.

The Gospel according to St. Matthew. The Greek Text, with Notes and Vocabulary. Edited by H. R. Heatley, M.A. (Percival.)—This book is intended to form the first of a series on the Greek Testament, to be produced under the general editorship of the Rev. Edward Miller, M.A. It is a compact and useful little volume. The notes are crisp and pointed, and just sufficient to supplement that oral teaching by which the book is intended to be accompanied.

Les Artistes Célèbres: Les Boule. Par Henry Harvard. (Paris: L. Allison & Cie.)—André-Charles Boule and his sons were not only skilful in cabinet-making, but also eminent painters and sculptors. The work before us contains thirty-nine gravures, and as a frontispiece a projet d'armoire in red chalk, in addition to well-written lives of the different members of the family, from the pen of Henry Harvard, inspecteur des Beaux-Arts, et Membre du Conseil des Beaux-Arts.

Cassell's Storehouse of General Information. Vol. IV. Illustrated with wood engravings, and with maps and coloured plates. Cloth gilt, 5s.—The fourth volume extends from Deodorant to Friar. It contains several maps and some good engravings of scientific instruments and architecture.

The Glasgow Series of Elementary Geography:—(1) *British North America;* (2) *New Zealand and Tasmania.* By L. W. Lyde, M.A. (Percival & Co.)—The author's aim in this series is to give such geographical information as will arouse pride and interest in the countries described, and to give this information in such a way as to appeal to the reason, not to the memory. The matter in the little books is good and plentiful, and is written in a cheery style that contrasts with the dullness of the ordinary geography book.

NEW EDITIONS.

(1) *Summary of English History from the Earliest Times.* (Longmans.) (2) *Outlines of English History from 1066–1887, with Genealogical Tables and Short Biographical Sketches.* Compiled and arranged by George Carter, M.A. (Relfe Brothers.)—New and revised editions of both of these works are now published. Both are decidedly good; the latter is more copious, especially in dealing with more recent times, and the biographical sketches are sure to be useful, but the former is cheaper, well and clearly arranged, and further improved by the insertion of a number of maps.

The French Irregular Verbs, Arranged without Abbreviation. By A. Thirion, L.L.A. (Cr. 8vo, pp. 64. Hachette & Co.)—We are glad to see that Mdlle. Thirion's useful little list of irregular French verbs has run into its fourth edition. It is well fitted to effect its object of securing accurate knowledge of the forms of the tenses, and is all the better for being unburdened by English renderings. It is handy, and well printed.

Lessons in Elementary Mechanics. By Sir Philip Magnus. (Longmans.)—The author has re-written this work, adding new matter where it was required, and defining and using the terms with greater exactness than in previous editions. The work is characterized throughout by great clearness and accuracy.

Tom Brown's School Days. By an Old Boy. (Macmillan.)—This is a volume of the "Golden Treasury Series," and is a reprint of the edition which first appeared in 1868.

The Song Book: Words and Tunes from the best Poets and Musicians. Selected and arranged by John Hullah. (Macmillan.)—This volume of the "Golden Treasury Series" contains the airs and the words of two hundred and sixty of the best songs of Great Britain and Ireland, collated five and twenty years ago by the late Examiner in Music of the Education Department.

MATHEMATICS.

11733. (Professor PICQUET.)—Construire la courbe
 $(x^2 + y^2)^2 + 8\lambda x^3 - 24\lambda xy^2 + 18\lambda^2 (x^2 + y^2) - 27\lambda^4 = 0.$

Solution by H. W. CURJEL, B.A.

Transforming to polar coordinates, and writing the equation

$$r^4 + 32\lambda r^3 \cos \theta \cos (\theta + \frac{4}{3}\pi)$$

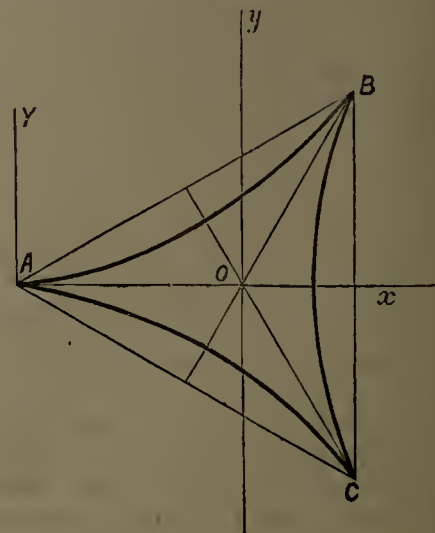
$\times \cos (\theta - \frac{4}{3}\pi) + 18\lambda^2 r^2 - 27\lambda^4 = 0,$
 we see that the curve is unaltered by turning it about the origin O through an angle $\frac{4}{3}\pi$; also the axis of x is evidently an axis of symmetry.

Again, transforming to the origin A ($-3\lambda, 0$), the equation becomes

$$(X^2 + Y^2)^2 - 4X^3\lambda - 36XY^2\lambda + 108Y^2\lambda^2 = 0,$$

the approximation at the origin being $X^3 = 27Y^2\lambda.$

[The rest in Volume.]



7306. (Professor HUDSON, M.A.)—From a point P on a parabola focus S, PM and PN are drawn perpendicular to the directrix and axis; PT, PG are the tangent and the normal limited by the axis; what line represents the resultant of forces represented by PM, PT, PS, PN, PG?

Solution by Professor LAMPE.

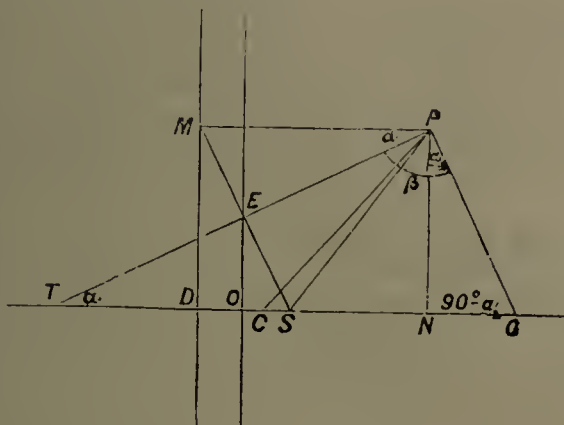
Let $2p$ be the latus rectum. The two forces PM and PS give as resultant again PT. Thus we have to find the resultant of forces $2PT$, PN, PG. Taking PT and PG as the two axes of reference, the three forces give as components, in direction of PG,

$$PG + PN \cos \alpha = X,$$

in direction of PT,

$$2PT + PN \sin \alpha = Y.$$

[The rest in Vol.]



9733. (R. TUCKER, M.A.)—ABC is a triangle; A', B', C' are the images of A, B, C with respect to BC, CA, AB. The circumcircle ABC cuts A'B'C' (say) in K (on A'B'), M (on A'C'), and AK, AM, AA' cut BC in P, R, Q respectively. Prove that (1) the orthocentres of the associated triangles lie on circle ABC; (2) triangle AKM has its sides parallel to and equal twice the sides of the pedal triangle of ABC, and is also equal triangle formed by the above-named orthocentres; (3) $CP \cdot a = b^2$, $BR \cdot a = c^2$, $AP \cdot a = AR$, $a = bc$, $BP \cdot a = a^2 - b^2$, $CR \cdot a = a^2 - c^2$, i.e., $PR \cdot a = 2bc \cos A$; (4) hence BA touches circle ARC, which contains a Brocard point of ABC; similarly for CA and circle APB; (5) $BR \cdot CR \cdot AR'' = abc = CP \cdot BP \cdot AP''$ (where R', R'', P', P'' correspond to RP, on CA, AB respectively); K, K' are the Brocard constants ($K = a^2 + b^2 + c^2$) of ABC, A'B'C'; then $K' - K = 16\Delta^2/R^2$.

Solution by Professor G. B. M. ZERR.

(1) Since the triangles A'BC, B'AC, C'AB are equal to ABC, and since A', B', C' are images of A, B, C, the orthocentres of the triangles are images of the orthocentre of ABC with respect to its sides.

But $BS \cdot SE = AS \cdot SC$,
or $a \sin C \cdot SE = a \cos C \cdot c \cos A$;

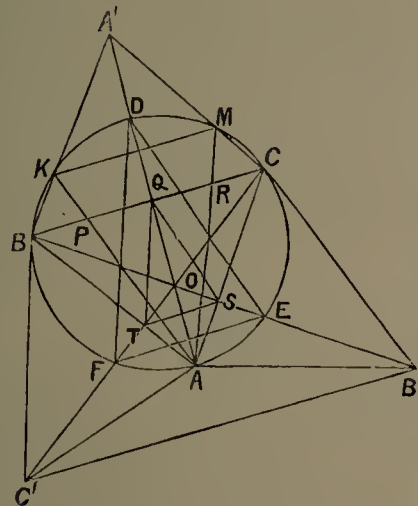
$$\therefore SE = c \cos A \cot C = SO;$$

also $DQ = b \cos C \cot B = QO$,

$$TF = a \cos B \cot A = TO;$$

therefore D, E, F are the orthocentres of the triangles.

[The rest in Vol.]

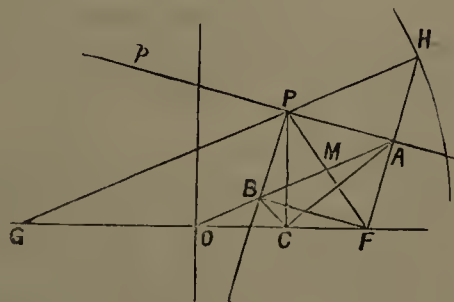


11797. (Professor TISSOT.)—Si l'on projette un foyer d'une conique sur la tangente et sur la normale en un point de la courbe, et ce dernier point sur l'axe focal, démontrer que (1) les deux premières projections seront en ligne droite avec le centre; (2) de la troisième, leur distance sera vue sous un angle droit; (3) dans l'angle formé avec l'axe par la droite qu'elles déterminent, la normale et la droite joignant la deuxième projection à la troisième seront anti-parallèles; (4) les distances du centre à ces deux dernières projections seront entre elles dans un rapport égal à l'excentricité, d'où résulte, sans calcul, le rapport connu de la différence ou de la somme des rayons vecteurs d'un point d'une conique avec la distance de ce point au second axe.

Solution by Professor SCHOUTE; J. C. ST. CLAIR; and others.

Représentons par F et G les foyers de la conique, par H un point du cercle directeur à centre G, et par p la droite normale à FH au point milieu A. Cette droite touche la conique au point P de GH. Soit B la projection de F sur la normale en P, et C celle de P sur l'axe FG.

[The rest in Volume.]



10980. (D. BIDDLE.)—On the straight line AB, with mid-point O, describe the semicircle APB. With centre A and radius AO, describe an arc cutting the semicircle in P₁. Join AP₁, BP₁, and between AP₁ and AB draw p₁q₁ parallel to BP₁, making Ap₁ = Bq₁. Again, with centre A

and radius Ap₁, describe an arc cutting the semicircle in P₂; join AP₂, BP₂, and between AP₂ and AB draw p₂q₂ parallel to BP₂, making Ap₂ = Bq₂. Repeat the process indefinitely, and produce AP₁, AP₂, AP₃, &c. to meet the perpendicular to AB (at B) in T₁, T₂, T₃, &c. Prove that AT₁, AT₂, AT₃, &c. are successive multiples of AB, of which AP₁, AP₂, AP₃, &c. are the reciprocals, and find the mean of n of the series last-named, as represented by Bq₁, Bq₂, Bq₃, &c.

Solution by H. J. WOODALL, A.R.C.S.

Since p₁q₁ is parallel to P₁B, we have

$$Ap_1 : Aq_1 = AP_1 : AB = 1 : 2;$$

but

$$Ap_1 = q_1B;$$

and therefore $= \frac{1}{2}AB$. So, again,

$$Ap_2 : Aq_2 = AP_2 : AB = 1 : 3;$$

but

$$Ap_2 = q_2B;$$

and therefore $= \frac{1}{4}AB$. Continuing, we find

$$Ap_n = AB/(n+2) = AP_{n+1}.$$

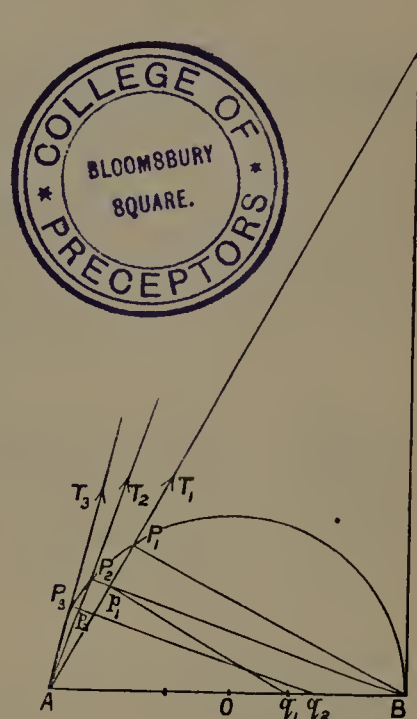
Again, triangles AP₁B, ABT₁ are similar; therefore

$$AT_1 : AB = AB : AP_1 = 2 : 1;$$

hence, generally

$$AT_{n+1} : AB = AB : AP_{n+1} = n+2 : 1.$$

That is to say AT₁, AT₂, are successive multiples of AB. Bq₁, Bq₂, Bq₃... are in harmonic progression. The harmonic mean of n of the series will be the middle term.



11090. (Professor MALILAL MALLIK, M.A.)—Find the value of

$$\frac{1}{2^2} \cdot \frac{1}{3^2} \cdot \frac{1}{4^2} \cdots \frac{1+2^4}{1+2^2} \cdot \frac{1+3^4}{1+3^2} \cdot \frac{1+4^4}{1+4^2} \cdots \text{&c.}$$

Solution by Professor SEBASTIAN SIRCOM.

The given expression

$$= \{(1+1/2^4)(1+1/3^4)(1+1/4^4) \dots\} / \{(1+1/2^2)(1+1/3^2)(1+1/4^2) \dots\}.$$

We have

$$\sinh \pi = \pi (1+1)(1+1/2^2)(1+1/3^2) \dots$$

Also

$$\sin \theta \sinh \theta = \theta^2 (1-\theta^4/\pi^4)(1-\theta^4/2^4\pi^4)(1-\theta^4/3^4\pi^4) \dots,$$

then

$$\sin \frac{1+i}{\sqrt{2}} \theta \sinh \frac{1+i}{\sqrt{2}} \theta = i \theta^2 (1+\theta^4/\pi^4)(1+\theta^4/2^4\pi^4) \dots$$

Whence, putting $\theta = \pi$, and simplifying,

$$\frac{1}{2} \{ \cosh(\sqrt{2}\pi) - \cos(\sqrt{2}\pi) \} = \pi^2 (1+1)(1+1/2^4)(1+1/3^4) \dots,$$

and the value required is $\{ \cosh(\sqrt{2}\pi) - \cos(\sqrt{2}\pi) \} / 2\pi \sinh \pi$.

[The rest in Volume.]

11785. (Professor ZERR.)—A bucket and a counterpoise connected by a string passing over a pulley just balance one another; the bucket is at a distance h from the ground, and an elastic ball is dropped into the centre of the bucket from a distance h above it: find (1) the elasticity of the ball so that the bucket may reach the ground just as the ball ceases to rebound; and (2) the time it takes, the masses of ball and bucket being equal.

Solution by Rev. T. R. TERRY; W. J. DOBBS, M.A.; and others.

Let M be the mass of bucket or counterpoise, and m the mass of the ball. Velocity of ball just before first impact is $(2gh)^{1/2}$. The velocity of the ball relative to the bucket has to be gradually destroyed by impacts. Therefore total time between ball starting from rest and settling down to rest on bucket is

$$\left(\frac{2h}{g}\right)^{1/2} (1+2e+2e^2+\dots) = \frac{1+e}{1-e} \left(\frac{2h}{g}\right)^{1/2}. \quad [\text{The rest in Vol.}]$$

11530. (Rev. C. L. DODGSON, M.A.)—Required a general investigation of the following trigonometrical formula, which, is useful in calculating limits for the value of π . The problem which I set myself was to break up $\tan^{-1} 1/a$ into two angles of the same form. Let

$$\tan^{-1} \frac{1}{a} = \tan^{-1} \frac{1}{a+x} + \tan^{-1} \frac{1}{a+y} = \tan^{-1} \frac{2a+x+y}{a^2+a(x+y)+xy-1}.$$

Then, if $(xy-1)$ were made equal to a^2 , the denominator would become $a(2a+x+y)$; i.e., the fraction would become $1/a$. Hence we get the rule: Let $(a^2+1) = xy$; i.e., break up (a^2+1) into any two factors, call them x and y , and use them in the formula with which we began. Thus, if $a = 3$, $a^2+1 = 10 = 2 \times 5$. Hence $\tan^{-1} \frac{1}{3} = \tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{5}$. By the use of this formula, I have obtained 3.141597 and 3.141583 as limits for π .

Solution by H. J. WOODALL, A.R.C.S.

If $\tan^{-1} 1/a = \tan^{-1} 1/(a+x) + \tan^{-1} 1/(a+y)$, or, as I prefer to write it (in GAUSS'S notation), $\Delta \cot a = \Delta \cot(a+x) + \Delta \cot(a+y)$, then

$$A \cot a = \Delta \cot \left[\frac{a^2 + a(x+y) + xy - 1}{2a + x + y} \right];$$

and we get, with the assumption that the angles are the smallest possible,

$$2a^2 + a(x+y) = a^2 + a(x+y) + xy - 1; \text{ whence } a^2 + 1 = xy \dots (C_2).$$

[The rest in Vol.]

6582. (R. A. ROBERTS, M.A.)—If a bicircular quartic meet a conic, show that the sum of the eccentric angles of the eight points of intersection is zero.

Solution by Professor SCHOUTE.

Let $S^2 = 0$ and $Q^4 = 0$ represent the given conic and bicircular quartic. Let $L_i = 0$ ($i = 1, 2, 3, 4$) represent four lines passing through the eight points of intersection of $S^2 = 0$ and $Q^4 = 0$. Then, according to an old theorem, the other eight points common to $Q^4 = 0$ and the four lines $L_i = 0$, not situated on $S^2 = 0$, belong to another conic $T^2 = 0$. So we find

$$Q^4 - \lambda S^2 T^2 \equiv \mu L_1 L_2 L_3 L_4 \dots (1).$$

[The rest in Volume.]

11809. (J. MACLEOD.)—Three circles whose centres are A, B, C respectively touch in pairs, A and B in the point D; B and C in E; and C and A in F, while the angle ABC is right; DF is bisected in G, and H is taken so that DH : HA :: DG : GA. If HG is produced to meet EF in K, HK shall be perpendicular to EF.

Solution by H. J. CURJEL, B.A.; Professor KOLBE; and others.

Let the tangents to the circles at D, E, F meet in O. Then OGA is a straight line, and is at right angles to FD, and GH bisects the angle AGD.

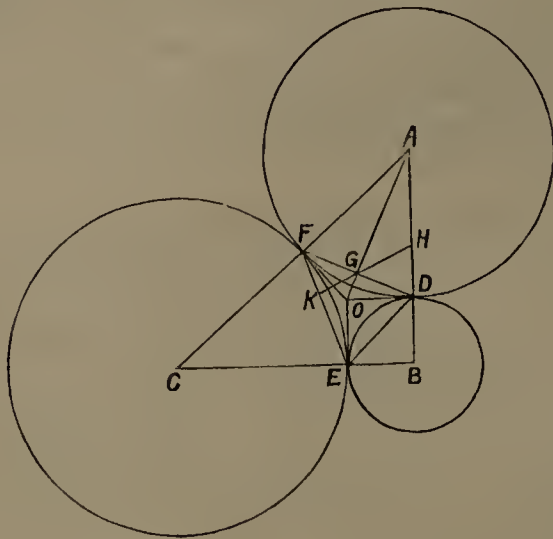
Since OF, OD, OE are equal,

$$\angle EFD = \frac{1}{2} \angle EOD \\ = \frac{1}{2} \text{ a right angle;}$$

but

$$\angle FKG = \angle HGD \\ = \frac{1}{2} \text{ a right angle}$$

therefore $\angle FKG$ is a right angle, i.e., HK is perpendicular to EF.



11709. (R. CHARTRES.)—If the base BC of a triangle be the horizontal range of a projectile which passes through the orthocentre and the circumcentre of the triangle: prove (1) that $\cot \omega = 3 \cot A$; (2) find the maximum value of A; and show (3) that only with this value of A will it also pass through the Brocard-point.

Solution by the PROPOSER.

Let θ = the angle of projection; then, as in Quest. 10735,

$$\cot C + \cot B = \tan \theta = 2 \cot A;$$

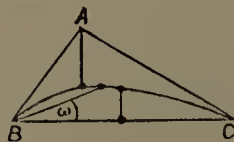
$$\therefore \cot \omega \text{ or } \cot A + \cot B + \cot C = 3 \cot A.$$

The maximum value of $\omega = 30^\circ$; therefore the maximum value of $A = 60^\circ$.

If the projectile also pass through the Brocard-point,

$$\tan \omega + \tan(C - \omega) = \tan \theta.$$

Let $x = \cot A$; then, by (1), $(3x^2 - 1)(216x^6 + 9x^2 + 1) = 0$; and the only possible value of this equation is $x^2 = \frac{1}{3}$ or $A = 60^\circ$.



11791. (Professor CATALAN.)—Quelle que soit la base de numération aucun des nombres représentés par 10101, 101010101, 1010101010101, ... n'est premier.

Solution by Professors SCHOUTE, KOLBE, and others.

Si x représente la base de numération on a

$$\frac{1 - x^{4n+2}}{1 - x^2} = \frac{1 - x^{2n+1}}{1 - x} \cdot \frac{1 + x^{2n+1}}{1 + x},$$

$$\text{ou } 1 + x^2 + x^4 + \dots + x^{4n} = (1 + x + x^2 + \dots + x^{2n})(1 - x + x^2 - \dots + x^{2n}).$$

11782. (J. GRIFFITHS, M.A.)—Let the angular points of any triangle ABC be joined with any given point O, and let the joining lines intersect the opposite sides of the triangle in p, q, r ; it is required to prove that:—(1) the points p, q, r , together with the middle points of the sides of the triangle and of the segments AO, BO, CO, all lie on the same conic. (2) This conic touches the inscribed and escribed conics of the triangle, which are similar and similarly placed to itself. (3) It passes

through the points of intersection, real or imaginary, of the circumscribing and self-conjugate conics of the triangle, which are similar and similarly placed to itself.

Solution by H. W. CURJEL, B.A.

Since the pairs of straight lines, AO, BC; BO, AC; CO, BC may be considered as three conics described through the four points A, B, C, O, they determine an involution on any straight line. Let Ω, Ω' be the double points of the involution determined by these pairs of straight lines on the line at infinity. Then we can project Ω, Ω' orthogonally into the circles. In the projected figure, O becomes the orthocentre of the triangle ABC; and the middle points of any straight lines become the middle points of the corresponding straight lines. [The rest in Volume.]

11787. (Professor ORCHARD, M.A., B.Sc.)—In any plane triangle ABC prove that

$$\begin{aligned} & \operatorname{cosec} B \operatorname{cosec} C \sin(B - C) \sin 3A + \operatorname{cosec} A \cot C \sin(C - A) \sin 3B \\ & + \operatorname{cosec} A \cot B \sin(A - B) \sin 3C + \operatorname{cosec} A \cot B \sin(C - A) \sin 3B \\ & + \operatorname{cosec} A \cot C \sin(A - B) \sin 3C \equiv 0. \end{aligned}$$

Solution by Rev. T. R. TERRY, M.A.; W. J. DOBBS, M.A.; and others.

Multiplying throughout by $\sin B \sin C$, and combining the second and fourth terms, and the third and fifth terms, it is enough to prove that

$$\sin(B - C) \sin 3A + \sin(C - A) \sin 3B + \sin(A - B) \sin 3C = 0.$$

But the sinister = $(\sin^2 B - \sin^2 C)(3 - 4 \sin^2 A) + \dots + \dots$, which obviously vanishes.

11736. (Rev. T. ROACH, M.A.)—Given the directrix and two points on an ellipse, find the locus of the focus.

Solution by H. MORGAN BRIERLEY; W. CURJEL, B.A.; and others.

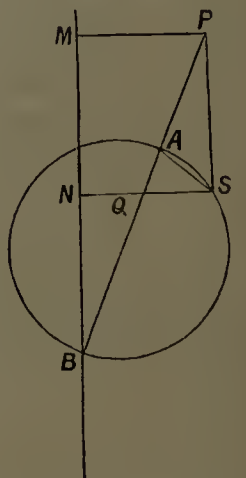
Let P, Q be the two given points on the conic, and MN the directrix. Draw PM, QN perpendicular to MN, and divide PQ internally and externally at A and B in the ratio of PM to QN.

On AB as diameter describe a circle SAB, and let S be any point on SAB. Then

$$SP : PM = SQ : QN.$$

Hence the circle SAB is the locus of the foci of conics passing through P and Q and having MN as directrix.

If the conics are ellipses the locus is evidently the part of the arc of the circle between A and the point where it cuts MN and the arc extending the same distance in the opposite direction from A. The circle is the locus of the foci corresponding to the directrix MN only.



11770. (Col. HIME, M.A.)—Two points, D, E, are taken in the side CA of a triangle ABC such that (n being any number)

$$AD : DC = c^n : a^n, \quad AE : EC = c^{n-2} : a^{n-2};$$

show that the isogonal of the line BD is the isotomic of BE; and hence deduce an easy geometrical construction for the centres of gravity of weights placed at the corners of the triangle proportional to the 2nd, 3rd, ... n th powers of the opposite sides (n being an integer > 1).

Solution by the PROPOSER.

Let the vector (BD) = B cut CA so that

$$\frac{AD}{DC} = \frac{c^n}{a^n}.$$

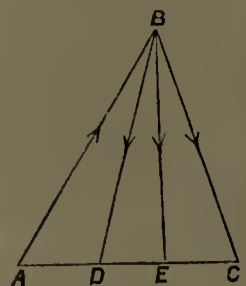
$$\text{Then } \frac{c^n}{a^n} = \frac{AD}{DC} = \frac{c \sin \theta}{a \sin(B - \theta)};$$

$$\text{therefore } \frac{\sin(B - \theta)}{\sin \theta} = \frac{a^{n-1}}{c^{n-1}}.$$

If (BE) = β' be the isogonal of β ,

$$\frac{AE}{EC} = \frac{c \sin(B - \theta)}{a \sin \theta} = \frac{a^{n-2}}{c^{n-2}}.$$

[The rest in Volume.]



QUESTIONS FOR SOLUTION.

11851. (Professor SYLVESTER.)—Prove that it is not possible to arrange any finite number of real points so that a right line through every two of them shall pass through a third, unless they all lie in the same right line.

11852. (Professor ZERR.)—If S represent the length of a quadrant of the curve $r^m = a^m \cos m\theta$, ρ the radius of curvature of the path of the pole when the curve rolls along a straight line, S_1 the length of a quadrant of the first pedal of the curve, prove that

$$(1) SS_1 = \pi a^2 / 2r; \text{ also } (2) \rho/r = (m+1)/m = \text{a constant.}$$

11853. (The late Professor CLIFFORD, F.R.S.)—Three elastic strings without weight, whose natural lengths are OA, OB, OC, are joined together at O, the centre of the circumscribing circle of the horizontal triangle ABC; and a smooth sphere of given radius and weight is placed with its centre vertically above O, and allowed to descend until the centre rests at O. Find the moduli of elasticity in the three strings.

11854. (Professor SHIELDS.)—If 1 man, 1 boy, and 1 girl, catch 1 trout, 1 perch, and 1 minnow, in 5 minutes, and 1 man, 2 boys, and 3 girls, catch 1 trout, 2 perch, and 3 minnows in 6 minutes, find how many minutes will be required for 2 men, 3 boys, and 4 girls to catch 5 trout, 11 perch, and 17 minnows.

11855. (Professor RAMASWAMI AIYAR.)—A harmonic polyhedron being defined to be one whose vertices can be inverted into those of a regular polyhedron, prove that (1) the faces of a harmonic polyhedron are harmonic polygons; (2) the Lemoine lines of the faces lie in a plane, which is the Lemoine plane of the polyhedron; (3) the pole of this plane with respect to the circumsphere being K (the Lemoine point of the polyhedron), the lines joining K to the Lemoine points of the faces pass through the poles of the faces with respect to the circumsphere; (4) the perpendiculars from K on the faces are proportional to their circum-radii; (5) if the lines joining K to the vertices of the polyhedron be divided in any the same ratio, and through the points of division planes be drawn parallel to the tangent planes at the vertices to the circumsphere, these planes cut the solid angles of the polyhedron in equal regular figures; (6) all the vertices of these regular figures lie upon a sphere; and all the sides of these regular figures are tangent lines to a sphere; (7) varying the ratio, we get two systems of spheres for every harmonic polyhedron; calling which the first and second Tucker's of the polyhedron, (8) the envelope of the first Tucker's is an ellipsoid of revolution.

11856. (Professor AMIGUES.)—On considère deux quadriques de forme invariable, l'une fixe, l'autre mobile. Elles sont assujetties à se couper suivant une circonférence, le reste de leur intersection étant, naturellement, une courbe plane. On demande le lieu du centre de la surface mobile. Pour ne parler que des parties réelles du lieu, on vérifiera que (1) dans le cas général on trouve une surface du sixième ordre; (2) dans le cas où la surface fixe est de révolution, on trouve une surface de révolution, du quatrième ordre, ayant pour méridienne une conique; et, de plus, un plan double; (3) dans le cas où la surface mobile est de révolution, le lieu se compose de coniques; et (4) si les deux surfaces sont de révolution, le lieu est une droite.

11857. (Professor TISSOT.)—Du centre d'un cercle intérieur et bitangent à une conique, on abaisse une perpendiculaire sur une tangente à la courbe, et l'on considère les deux points de cette perpendiculaire qui se trouvent à une distance de son pied égale à la longueur de la tangente menée de ce pied au cercle. Trouver le lieu décrit par l'un de ces points, (1) lorsque la tangente est fixe et que le cercle bitangente varie, (2) lorsque, le cercle restant le même, le point de contact de la tangente se déplace sur la conique.

11858. (Professor VAUTRÉ.)—Dans un déterminant de Vandermonde $\begin{vmatrix} 1 & a & a^2 & \dots & a^{n-1} \\ 1 & b & b^2 & \dots & b^{n-1} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ 1 & l & l^2 & \dots & l^{n-1} \end{vmatrix}$ on remplace les éléments de la dernière colonne par $a^{n+p-1}, b^{n+p-1}, \dots, l^{n+p-1}$. Démontrer que le déterminant correspondant est égal au déterminant de Vandermonde multiplié par la somme des combinaisons p à p , avec répétition des lettres $a, b, \dots, l$.

11859. (Professor NEUBERG.)—Etant donnés un angle xAy et un point M, une droite quelconque menée par M coupe Ax en B, Ay en C; on inscrit dans le triangle ABC un carré dont un côté repose sur Ax. Trouver le lieu du sommet du carré situé sur BC.

11860. (Professor CATALAN.)—Trouver les solutions entières des équations $x+y=u^2$, $x^2+y^2=r^2$.

11861. (Professor BARISIEN.)—D'un point fixe P du plan d'une lemniscate de Bernoulli on mène une sécante quelconque qui rencontre la lemniscate en quatre points A, B, C, D. Le lieu du centre des moyennes distances des quatre points A, B, C, D, lorsque la sécante pivote autour du point P, est un cercle qui reste invariable pour toutes les lemniscates ayant même centre et mêmes directions d'axes.

11862. (Professor BERNÈS.)—Dans un même cercle sont inscrits deux triangles ABC, A'B'C', qui ont les angles en A supplémentaires et de sens contraires compris entre côtés homologues proportionnels $\frac{AB}{AB'} = \frac{AC}{AC'}$. Démontrer que (1) les symédianes issues de A dans les deux triangles sont symétriques relativement au rayon AO; (2) si, par A, on trace Ax parallèle à BC, Ax' parallèle à B'C', les médianes issues de A dans les deux triangles sont antiparallèles relativement à l'angle xAx' ; (3) étant donné l'un des triangles, construire l'autre.

11863. (Professor LEMOINE.)—Le premier cercle de Lemoine est le cercle qui passe par les intersections des côtés avec les parallèles aux trois côtés menées par le point de Lemoine.

11864. (Professor LUCAS.)—Mettre le nombre $x^{10} - 5^5 y^{10}$, où x et y sont des nombres entiers positifs, sous la forme d'un produit de trois facteurs rationnels.

11865. (Professor DÉPREZ.)—Soient M, N deux points complémentaires par rapport au triangle ABC; U, V leurs triangles polaires. Trouver les lieux décrits par ces points lorsqu'on donne une relation de la forme $mU + nV = p$. Ces lieux peuvent-ils être des droites?

11866. (Professor MANDART.)—Soient M, N deux points correspondants d'une ellipse et du cercle décrit sur le grand axe comme diamètre. Le rayon OM de l'ellipse rencontrant en P la tangente menée en N au cercle, on demande l'aire de la courbe engendrée par le point P.

11867. (Professor CESARO.)—Les parallèles menées par un point de l'ellipse de Steiner aux médianes du triangle, rencontrent les côtés opposés sur une droite. Étudier l'enveloppe de cette droite, lorsque le point se déplace sur l'ellipse.

11868. (Professor KOLBE.)—Find a short method of reducing to decimals fractions whose denominator ends in 9; e.g., $\frac{1}{19}, \frac{2}{19}, \dots$, &c.

11869. (F. G. TAYLOR, M.A., B.Sc.)—If l, m, n be the distances of a point O from the sides of a triangle ABC, prove that

$$a^2 l^4 + b^2 m^4 + c^2 n^4 - 2bc \cos A \cdot m^2 n^2 - 2ca \cos B \cdot n^2 l^2 - 2ab \cos C \cdot l^2 m^2 - 2abc (a \cos A \cdot l^2 + b \cos B \cdot m^2 + c \cos C \cdot n^2) + a^2 b^2 c^2 = 0.$$

11870. (EDITOR.)—If OAB be a fixed straight line touching two given conics in A, B, OPQ any straight line through O meeting the two conics in P, Q, prove that the locus of the intersection of the straight lines AP, BQ is a conic passing through the four common points of the two given conics.

11871. (R. TUCKER, M.A.)—(O), (O'), are the circum- and in-circles of the triangle ABC, and A'B'C' is the diametral triangle; prove that (1) the sum of the squares of the tangents (taken once) from the six vertices to (O') = $6(2R^2 - 2Rr - r^2)$; (2) the circle, centre A', radius A'O', cuts (O) in L; (3) AL is a mean proportional between AB, AC.

11872. (D. BIDDLE.)—From the centre of a given circle, on a horizontal plane, rises a vertical shaft, to the summit of which is attached by its mid-point a movable rod, which forms a common diameter of two rings, each equal in circumference to the circle on the plane. The rod is pointed to any part of the heavens, and the rings are severally placed at any angle upon the rod as an axis. Find the probability that a particle dropped from a height on to the circle shall pass through (1) one ring in particular, (2) one ring only, (3) one ring at least, (4) both rings, (5) neither ring.

11873. (R. W. D. CHRISTIE.)—In forming the convergents to $\sqrt{P}$ (a prime of form $4n-1$), prove that (1) the cycle is always odd; (2) the middle divisor is invariably 2; (3) the middle convergent is the greatest odd number in $\sqrt{P}$; (4) that the convergents may be written down backwards or forwards, and (5) that this theorem corresponds to the famous one of the $4N+1$ primes = two integral squares. (V. Quest. 11667.)

11874. (S. TEBAY.)—If three of the numbers 1, 2, 3, ... n be taken at random, find the probability that every two of them shall be greater than the third; and show that, if n be indefinitely large, the chance ultimately approaches the limit $\frac{3}{8}$.

11875. (W. J. GREENSTREET, M.A.)—If $\lambda_a, \lambda_b, \lambda_c$ be the joins of any point on the in-circle to the angular points of a triangle, find the value of $\Sigma \lambda \lambda_a^2$.

11876. (H. J. WOODALL, A.R.C.S.)—Investigate the arrangements of n quantities ($a_1, a_2, \dots, a_n$) in a row, so that the difference between two consecutive suffices is (1) not less than k , (2) not greater than k .

11877. (Rev. T. ROACH, M.A.)—Tangents are drawn to a hyperbola from any point T on the conjugate, and a chord is drawn through the centre parallel to the tangent at T; prove that the chord bisects the tangents.

11878. (M. BRIERLEY.)—Show how a given cylindrical piece of wood must be cut from the circumference of one of its ends obliquely through the axis to the other end, so that it may just stand uprightly on the lesser end when the part cut off is taken away.

11879. (Rev. T. R. TERRY, M.A.)—Prove the following formulæ without using the methods of the infinitesimal calculus:—

$$(1) \frac{1}{4}\pi = \cos x - \frac{1}{3}\cos 3x + \frac{1}{5}\cos 5x - \dots;$$

$$(2) \frac{1}{2}\tanh^{-1}(\sin x) = \sin x - \frac{1}{3}\sin 3x + \frac{1}{5}\sin 5x - \dots.$$

11880. (A. J. PRESSLAND, M.A.)—If from a point P three normals PQ, PR, PS be drawn to a parabola QRS, and the orthocentre of the triangle formed by the tangents at Q, R, S be O, prove that PO is perpendicular to the directrix.

11881. (W. J. DOBBS.)—A uniform rod ACB, of weight W and length $4a$, rests upon a smooth peg C, and its lower end A is attached to a fixed point O in the same horizontal line with C by means of a string OA. If $OC = OA = c$, show that the inclination of the rod to the horizon is $\cos^{-1}[\{a + (a^2 + 8c^2)^{\frac{1}{2}}\}/4c]$, and that no position of equilibrium is possible unless $a > c/6^{\frac{1}{2}}$ and $< c$.

11882. (A. KAHN, B.A.)—Describe an equilateral triangle such that one vertex coincides with a given point, and the other two vertices are on a given straight line and a given circle respectively.

11883. (R. KNOWLES, B.A.)—QR is the common chord of a circle and rectangular hyperbola which touch at a point P; MN are the points of contact on the hyperbola of the two real common tangents; the chords MN, QR, meet in D; K is the pole of QR with respect to the hyperbola; prove that (1) the envelope of DK is a conic, which touches the hyperbola in P, and cuts it in two other points Q', R'; (2) the pole of Q'R', with respect to the hyperbola, is on the chord of curvature at P.

11884. (C. BICKERDIKE.)—A boy playing piggie strikes the toy at a given distance from its middle and at right angles to its principal axis. Required the conditions of motion after the blow, the force of the blow being known, and the weight of the piggie given, piggies being in the form of two right cones joined at their bases.

11885. (I. ARNOLD.)—A point p and a right line being given in position, find the locus of another point q , so that pq^2 shall be equal to the rectangle under the perpendicular qc (on the given line) and a given line m .

11886. (ELIZABETH BLACKWOOD.)—An indefinitely large plane area is ruled with parallel equidistant straight lines; a is the distance between two consecutive lines. A second set of parallel equidistant straight lines crosses the former set at right angles; b is the distance between two consecutive lines of the second set. A regular polygon is then thrown down on the area; the polygon has $4m$ sides, and the diameter of the circle circumscribing the polygon is less than a and also less than b . Determine the chance that the polygon will fall across a line.

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LONDON MATHEMATICAL SOCIETY.

Thursday, February 9th.—Mr. A. B. Kempe, F.R.S., President, in the chair.

The following papers were read:—

"The Harmonics of a Ring," Mr. W. D. Niven, F.R.S.

"The Group of Thirty Cubes composed by Six Differently Coloured Squares," Major MacMahon, R.A., F.R.S.

Messrs. Hobson, Greenhill, Cunningham, and the President, took part in the discussions on the papers.

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The Educational Times.

COLLEGE OF PRECEPTORS.

EVENING MEETING, MARCH 15TH, 1893.

The Chair having been taken by W. BROWN, Esq., B.A., Professor H. G. SEELEY, F.R.S., read the following paper on

COMMERCIAL GEOGRAPHY.

A demand for Commercial Geography has originated of late years with Chambers of Commerce, which have pressed the subject on the attention of schoolmasters. The Chambers of Commerce represent the requirements of employers of such material as schoolmasters may be able to send them; and in concert these two bodies framed regulations by which commercial geography entered into the school curriculum and became an examination subject for various appointments. The tender age at which the junior teaching was to be received by the pupil, precluded the possibility of commercial geography being regarded as a higher branch of geographical attainment, and, therefore, it was not possible that it should be based upon its natural foundations of Physical Geography so as to ensure training in the methods of thinking concerning the influence of physical phenomena upon the earth's products and peoples, and the means which the earth's surface affords for conveying raw material or manufactured goods from one region to another. The subject abounds in technicalities. It is necessary that these difficulties to the pupil should be dissipated by excess of knowledge in the teacher, which will remove their technical character in a copious familiarity with facts. But any such conception or effort is obviously beyond the work which may be fairly expected from school children, and yet nothing short of it can be effective mental training, because it is rather the memory than the understanding which is then cultivated.

Commercial geography comprises three principal departments of knowledge:—First, practical knowledge of the nature and sources of all the different kinds of raw material which the earth produces, in so far as the substances, mineral, vegetable, or animal, have a commercial value. Secondly, detailed knowledge of the manufactured products which, with varying degrees of skill, are obtained from the raw materials, in the several regions in which they are manufactured. And, thirdly, there is knowledge of the distributive industries by which these manufactured goods reach diverse peoples. But the balance between these three prime divisions of commercial geography is affected by so many circumstances of fluctuating yield, of mines and crops, of international war, and civil war between employers and workmen,

that the conditions of every one of the elements in commercial geography undergoes important geographical change in very short periods of time; so that averages, as evidenced by records over an extended period, become indispensable when geographical knowledge is utilized in the practical business of commerce, as evidence of its real growth or decadence.

If the pupil merely learns the fact, for instance, that the Romans obtained much of their gold from Spain, France, and Britain, and he does not learn that the British rocks still yield gold, like the sands of the Rhine, he fails to realize the enormous improvement which has come about in the material condition and wealth of the European peoples, since it is no longer remunerative, under ordinary circumstances, to engage in gold-mining in Western Europe. This may be in part due to exhaustion of the richer deposits and lodes, but the decline of the industry also measures the value of labour as an element in commercial geography, which changes with time.

As the density of population increases beyond a certain limit, the value of labour diminishes, as is manifest in part of India and China; but, on the other hand, with increase of population, the raw materials are obtained in greater quantity from the earth, for there is more competition to bring them to the best markets. Thus, Cornwall was for a long time an important source of copper, but the supplies of copper from America and Spain have been for some time so large that it is no longer remunerative to work the English veins and deposits of copper, so that the mines, in our time, have come to be regarded as practically worked out, just as was the case with the sources of the Roman gold. And, in the same way, silver in some of the German mines is worked in an intermittent way, which depends upon the price of silver in the market, though that price has steadily diminished since the discovery of America, when it is stated to have been one-half the value of gold, while, at the present time, it is almost one-sixth.

This fluctuating commercial value for metals and other produce of the earth which is obtained from the rocks, applies equally to the animal and vegetable produce reared by man. And hence the student who engages in the study of commercial geography, realizes that the areas in which the raw materials of commerce are produced, are not identical with those in which they exist; and that their production is entirely dependent upon the facility with which man can bring the yield of any region into the world's markets.

But the commercial demand for some ores of metals is changed with improved processes of manufacture. Thus the iron ores of the Wealden district of Kent and Sussex, which were smelted with charcoal, ceased to be profitably worked when the clay iron-stone which is associated with the coal-bearing rocks in many parts of Britain, came to be smelted with the aid of coal and gas. And in the same way the supremacy of Britain as an iron-producing country has been seriously affected by the modern method of making steel, which was originated by Bessemer; because the clay iron-stone was no longer suitable for the improved process; and it has become necessary to use the iron ores known as hæmatite. This has affected the geographical distribution of iron works by making it more economical to manufacture steel in South Wales, for example, where the ports are conveniently situated for distributing the ore obtained from Spain to various localities in the South Wales coal-field; just as it has given new importance to places in Cumberland and Furness, which are near to the English sources of hæmatite in the lake district, and the Irish supplies from Antrim. And one result of this change in the steel trade has been to transfer industries, like the making of steel rails for railways in recent times, from the Yorkshire centre to the west coast, by which the double saving has been effected of railway charge for conveyance of the raw material to the place of manufacture, as well as that paid for carrying the manufactured goods to the place of shipment.

Year by year all kinds of raw material show not dissimilar changes in their geographical relations, and variations in manufactures are introduced owing to utilization of what had been waste material, or introduction of new products. These changes are so rapid that it would not be easy without Government aid in publication to ensure that teacher and pupil should be kept aware of the daily progress of this aspect of commerce.

I need only draw attention to the changes which have taken place in recent times in the sources of food supply for this country, to show that more favourable conditions of climate, of tenure of land, of machine cultivation, and value of labour, have enabled many distant parts of the earth to send to Britain their corn and cattle, not to mention the less important foods, at

prices which are driving the English agriculturists into town industries; and seem likely at no distant period to further diminish and vary the producing areas of the home-grown supplies of food. The food industries are exceptional, because the raw produce requires such long-continued labour to bring it to perfection, that such cultivation has almost the aspect of a manufacture. And under comparatively heavy rental and tithes, and rates thrown on the land, and the augmented cost of agricultural labour, and higher railway rates, home produce cannot compete with foreign importations which are not thus weighted.

The areas from which such and such like articles trade are obtained, being dependent on climate and especially on summer temperature, and soil, at first sight have the aspect of falling within the scope of physical geography. But while that subject is occupied with laws of nature under which mineral produce and animal and vegetable produce occur in different parts of the earth, commercial geography only concerns itself with them when they become profitable articles of commerce. So that the two subjects have much the dissimilarity of theory and practice, and are altogether unlike in their principles.

The balance between British and foreign manufactures is governed by complex conditions of politics and political economy. The American civil war, by affecting the region which had been the main source of supply of raw cotton, was the means of stimulating the growth of cotton in Asia and Africa. The Franco-German war, by interrupting the manufactures of Germany and France, greatly augmented the demands for English goods. Such conditions of change in producing areas can never be permanent, unless the country which is placed temporarily in such a position of advantage, is able to sell better and more artistic goods at a less cost than the competing nations which endeavour to recover the trade. And in commercial geography it is necessary for every industry to extend its output, if it is to continue to exist; because population increases. The new generation has to be won over to support it, and without this support it must decline. These fluctuations in industries are commonly spoken of as waves of national prosperity, when they are simply displacements in the geography of commerce.

I remember a time when the silk trade was much more widely distributed in England, and carried on not only in the great towns of the midland and northern counties, but in little villages in Suffolk. But, under the guidance of Mr. Cobden, a treaty was concluded with France which almost destroyed the English silk trade by allowing French goods to enter the market to compete with our own manufacture. France and Italy as silk-growing countries are obviously in a better position to carry on the manufacture of silk, even if there were no differences between the cost of English and foreign labour. But, while the finer silks are lost as English goods, a new industry has developed in manufacture of the produce of the oak silk-worm of China, which yields the Tussock silk, largely made in Macclesfield. And more recently the manufacture of silk plush has assumed some importance in Yorkshire, in a beautiful industry which is based upon the utilization of the waste cocoon from which the silk has been all reeled off. And it is not without interest that an item of profit in this trade consists in the careful preservation of the bodies of the insects which were within the cocoon, for these are sold as insect manure.

Almost all branches of manufacture show in a few years evidences of changed conditions of prosperity. We associate the paper trade very much with the basin of the Thames, though it is by no means limited to that area. But proximity to sources of supply of rags and waste paper, and facilities for shipping, have made the Thames basin important in the paper trade. Now, however, there are important paper works at Glossop and at Barrow-in-Furness, in which no rags are used, and excellent paper is made from Norway pine. Outside the works the wood is stacked in short lengths, just as it is stacked along the railways in Russia as fuel for the engines. It goes into the works in this form, and it comes out in endless rolls upon which newspapers are printed. Steam wedges split it. Steam drills take out the knots. Steam chisels cut it into chips. The chips pass down a hopper from which every discoloured fragment is removed by hand. Then they disappear in a vessel of sulphuric acid, in which the wood is reduced to pulp. It is yet a long way from becoming paper, and its after-treatment depends greatly upon the kind of paper that is to be made. The samples present a toughness and beauty which seem to indicate that the old ideas of paper-making may undergo change, both as to the raw materials used, and the geographical positions favourable to the industry.

A not infrequent difficulty in the local prosperity of an industry

is the contests that so often occur between workmen and employers concerning hours of work and rates of wages. So long as there is free trade and the wages paid abroad are less than in this country, it is possible for almost any industry to be transferred to the Continent, if the workmen demand higher wages than the trade will bear, and remain on strike sufficiently long for the foreign goods to supplant their own in the market. Many English manufacturers have from this cause been compelled to become manufacturers in Germany. The individual trade is often ruined by a strike, in the same sort of way as the national trade may be ruined by a war. At the present time, for instance, there is a strike in the glass-bottle trade, some branches of which are largely centered about Castleford and Knottingley in Yorkshire. There many of the bottles are made which are most familiar to us. Bottle-making machinery has been invented and used at Castleford, but apparently there is no reason for the location of the trade in the district, more obvious than the skill which is gained by a regular system of apprenticeship. In Germany the wages paid to the workmen are much less than in this country, and the result is seen in the delivery of a particular kind of bottle of German make, in Hull, at 8s. 6d. a gross, when the same bottle cannot be made in Knottingley for less than 11s. a gross. If the trade once becomes displaced under foreign competition it is almost impossible that the old geographical relations of the industry can be regained; and in this respect the glass-bottle trade is a type of every other manufacture.

There is another trade upon which I should like to say a few words—the fustian trade—as illustrating the relation of capital and labour in a different way. It is somewhat scattered and not highly paid. But at Hebden Bridge in Yorkshire there is a remarkable co-operative society, in which workmen, from very small savings, have accumulated the capital to carry on prosperous works. There you may see the fustian woven, cut, brushed to produce the cord by bringing the threads from the half of one rib into union with the adjacent half of the next rib. Then the fabric is dyed; and a considerable wholesale trade is done in supplying the co-operative societies of Yorkshire and Lancashire with these goods. But much of the manufacture passes to another floor of the building, where it is cut by endless knives into garments; and all round the factory workpeople are engaged in completing the garments for wear. Thus, every stage of the clothes trade is carried on under the same roof. Every man and woman employed is a capitalist, and receives a good dividend on the capital. There is the cost of management charged upon capital and labour, there is the payment of wages to the members of the society, and periodic division of profits. It is an arrangement which enables the workman to escape from the struggle with capital, and to feel how much of his success must depend upon his own industry; and, although such experiments are not important enough to be considered in commercial geography in its international aspects, they are of some interest to English people.

These examples, taken almost at random as types of the practical problems which affect the distribution of manufactures, may be further augmented when we consider the distributive side of commerce. There are endless questions which govern foreign trade, besides the duties levied on imports. The cost of freight is not to be neglected. And in the tin-plate trade, for example, so largely carried on in Birmingham and Wolverhampton, it is a matter of importance to make tin bowls as light as possible, and so that they may fit into each other and occupy the smallest possible space, when they are intended for American markets. The patterns made for foreign markets, in domestic metal goods, are such as the people are accustomed to. In all fabrics the colours and designs vary with the great divisions of the earth; and the blanket which delights the eye of the Kaffir is never sold in England. There is a tone of colour in the cotton prints required in Algeria which is different from those which are required in India. And yet in such industries it has not been usual for the manufacturer to find out the needs of foreign markets for himself, but he makes what is ordered by the wholesale agents or merchants who study the foreign markets, and thus direct the manufacturer to meet the demand.

The distribution of wealth is a not unimportant factor in the distributive aspect of commerce, and the low price of the goods is often the only means of competing successfully in the foreign market. Thus the Leicestershire stocking trade, in one of its branches, depends upon the socks being sold in Constantinople and Syria at the rate of twopence per pair; and such a trade is only kept by ceaseless improvements in invention of machinery for the

manufacture. The competitive aspect of international distributive commerce is leading more and more to the invention of machinery to lessen the cost of production, so that in many great works a large proportion of the workmen are employed in tending machines or using them, so as to reduce the cost of the manufacture. This is especially obvious in some of the great agricultural implement works of the eastern side of England, where multitudes of machines worked by steam make the many parts of costly steam ploughs, sowing, reaping, binding, and thrashing machines made for foreign and colonial requirements, which, in their turn, reduce the necessity for agricultural labour.

Another aspect of the distributive side of commercial geography is the need that the capital invested should become available again in the shortest possible time. This may be effected in many ways known in commerce, with which geography is only indirectly concerned, as in the sale of a cargo which has yet to be delivered; but it has led to utilization of the most rapid means of conveyance, by which the steam ship supersedes the sailing ship, and the train takes up the work of the canal barge. This element of speed in delivery has become a necessary condition of preserving the market from being forestalled; and, in the case of some perishable goods, of creating markets which did not exist. In this country we have had the advantage of receiving fruit from the antipodes, especially from Tasmania, at a time when the fruit supplies of Europe are exhausted. When in Cape Town I drew attention to the facility with which fruit from South Africa might be sent to the European markets. I do not know whether my words had any influence, but within two years many South African fruits have reached this country; and grapes from the Cape are now among the cheapest and best in the London market. Trade often only needs to be started to augment, especially when the markets are supplied with commodities which were not previously available.

This consideration leads me to mention another personal experience which may be possibly not unconnected with a now common industry. About thirteen years ago I was occupied in dissecting some large alligators which had died in London, and desired to have their skins tanned into soft leather. No one of my friends among tanners had ever heard of leather made from this kind of skin; and, after seeking information through the principal channels, no one would undertake the responsibility of the experiment. Yet the trade soon became interested in the possibilities of a new industry, and within two years small tanned crocodile skins were curiosities exhibited in many shop windows in London. At the present time the skins of crocodiles, lizards, and serpents, are not only tanned but manufactured into a multitude of useful articles, which are attractive from the patterns of the reptilian ornament.

In this slight sketch of the nature of commercial geography my main endeavour has been to show that it is dominated by definite principles which should make us anxious to teach it practically with the same thoroughness as though it were one of the older sciences. Whatever interest there may be in the analytical method of examining the produce of the world country by country, it alone will not make the youth into a merchant, or prepare him adequately for mercantile duties; because commerce in its practical aspects is concerned with special kinds of products such as wool or hair, barks or resins, gums or timber, or manufactured goods like wines, furniture, or machinery, which need special skill in appraising them, and which come from or go to many countries. And in the interest of the pupil it seems to me desirable that the teaching should run as nearly as may be parallel with the ways of thought which will make the knowledge he gains immediately useful.

There can be no question that commercial geography is an attainment of immense importance for the commerce of the country, and destined in the not distant future to hold an important place in education. But it is so complex in its elements, and so fluctuating in its facts, that the difficulties in teaching it are greater than may have been generally realized. It is no easy matter to make the elements of political economy which enter into it, intelligible to children of fourteen or fifteen, while the convictions of the working classes which, as expressed through their trade organizations, set steadily towards shorter hours of labour and increased wages, might make such teaching extremely unwelcome in many homes. A time may come when Government examinations may require such knowledge, and then people will realize that one reason why so many things are "made in Germany," is the fact that the lower wages paid in that country, and the more frugal habits of the people, make the cost of production less.

Another difficulty is that, for such knowledge to be of value in commerce, the pupil must learn his fundamental facts not so much from books as from examination of specimens, and for this end it is necessary to form illustrative museums in every school, and museums of commercial geography in every town. Such museums should exhibit not only raw produce, but its geographical distribution; and not only manufactured goods, and the varieties needed for different geographical areas, but stages of manufacture with which commerce is concerned, as well as any waste material which is not yet utilized. County Councils have not yet become alive to the possibility of advancing technical education by such means; but, if we are to hold our place as a nation of merchants and shopkeepers, means must be found to impart practical familiarity with the raw materials and stages of manufacture of commercial products in all our chief industries. I have no doubt the manufacturers will contribute such specimens to the schools or museums in their own districts, so that the boy may learn the different qualities of wool which come from the several portions of the same fleece, and the differences which he recognises in the wools imported from New Zealand and from Europe, for example, which result in their being made into different fabrics. It is only by such aid that commercial geography can be taught in a way which will interest the pupil and benefit the employer. But even if these practical aids were forthcoming, the subject seems to me too extensive to be systematically taught to pupils of secondary schools at present, on account of the pressure of other work and the limit of age.

I would, therefore, propose to limit the work of children under fifteen either to a general knowledge of the chief types of the raw materials, British or foreign, which are used in any way in this country, or to a complete knowledge of some group of industries, like the textile trades or metal trades. The first of these suggestions has much to recommend it, because commercial geography may then be built upon physical geography as a science; and the pupil, from the first, realizes that his purpose is not so much to remember facts, as to understand them, and think how his knowledge can be applied. All the collateral attainment which can be added, for example, to a discriminating acquaintance with the ores of metals, is a technical training by means of scientific processes which have to be understood. And, whether such further attainment is made in school-days or later, it is made at some time, if the foundation was well laid by the men who extend the demand for British goods.

This suggested limitation of the subject, as a school study, overcomes the chief difficulties which have been indicated as affecting the teacher, while it reduces the difficulty in obtaining the necessary materials for practical work. I may, therefore, claim that there is no reason why commercial geography should not become a recognised study in all schools in which technical training is encouraged.

For the present, the complicated conditions of manufacturing and distributive industries seem more suitable for study when the young man is fairly engaged in the battle of commercial life. And it is rather in University institutions, like King's College, London, than in schools, that he may be advised to follow out such an examination of the ultimate history of raw materials and manufactured goods as accounts for their distribution by merchants and traders.

There is practically no limit to the enterprise of the English merchant in discovering markets, and profiting by new commodities. Probably no discovery that he could make would be so welcome as clerks who to their other attainments added that practical grasp of their work which would follow from adequate mastery of this branch of knowledge. On that account the merchant's aid may be desired in co-operating to further organize the formal recognition of commercial geography, as a suitable subject not only for Government examinations, perhaps under the Science and Art regulations, which would give new intelligence to the rank and file of traders, but also for professorial teaching in Universities, so that the employers of labour may be not less well prepared for their share in this educational effort to cherish and, if possible, advance the prosperity of our country.

Mr. LAngLER observed that much of the bad teaching of geography in former days must be attributed to the style of text-books then in vogue, consisting as these did, for the most part, of mere tables of words which had to be learnt by rote. Under such treatment the pupil might learn a certain amount of topography, but nothing worthy to be called geography. It was now generally recognised that in geography, as in other studies, association of ideas must be largely relied upon to assist

the memory in retaining useful facts. One great difficulty in setting out to teach commercial geography was to determine which part of this very comprehensive subject could be mastered in the limited time at the disposal of the schoolmaster. Much information as to the raw materials of commerce might be given by means of object-lessons, and afterwards the pupils could be instructed as to processes of manufacture, distribution of goods, and the reasons that determined the gravitation towards particular districts of particular trades, &c. They would then be prepared to pursue with advantage the closer study of some special branch of commerce. This paper would tend to promote the study of commercial geography, which undoubtedly was the geography most useful to the majority of the people of this commercial nation.

Mr. LAWSON thought that commercial geography, according to the view of the subject taken by the lecturer, could hardly be taught in schools, but must rather be reserved for the time when the pupil should have entered a business, and could study the subject in evening classes. The important thing at school was to ground the pupil in the principles of geography. He should first learn physical geography, and afterwards go through a systematic course of descriptive and commercial geography. Object-lessons were interesting, but could hardly take the place of systematic instruction in geography. He would recommend that the scope of the instruction should be limited—that the pupil should confine his attention to, say the geography of the British Empire, with special reference to the exports and imports of the United Kingdom.

Mr. SMURTHWAITE was of opinion that pupils should be taught something of the economic causes that contributed to the growth or decay of commerce. They would thus be in a better position to understand the effect of foreign competition, of legislative limitation of hours of labour, &c.

The CHAIRMAN remarked that the hearty thanks of the audience were due to the lecturer for his very able and instructive paper, and for the thorough appreciation it showed of the practical difficulties which the schoolmaster encountered when he attempted to teach a subject like commercial geography. A large amount of confusion would be removed if teachers could learn precisely what was expected of youths entering business by those who controlled the commerce of the country, and if these, on their part, should clearly apprehend the limits to the possibilities of school instruction. He was of opinion that the London Chamber of Commerce had made a great mistake in their attempt to force the inclusion of technical instruction in the ordinary school curriculum, and this view was strongly supported by the report of the London County Council's Special Committee on Technical Education. No good results could attend the study of technicalities until the pupil had been carefully grounded in the subjects of general education. With regard to commercial geography, it was obviously impossible that a boy at school should be taught the technicalities of all trades. Plainly, then, this subject should be reserved for the after-school curriculum, when the boy could select the particular part of the subject that would be useful to him. He would suggest that the Chamber of Commerce should accept a certificate from one of the great examining bodies as proof of a lad's good general education, and they would be exercising their legitimate function if they would insist on his attendance at continuation schools, where he might study the technicalities of the particular business in which he might be engaged. He would remark that this plan had been followed with great success in Germany. He could speak from experience of the detrimental effect on the standard of education in a school produced by the endeavour to conform to the present requirements of the London Chamber of Commerce. The Chamber might usefully, however, institute an examination for boys who were just leaving school to enter business, which should be confined to technical subjects, such as commercial geography, industrial history, modern foreign languages, shorthand, book-keeping, drawing, commercial arithmetic, chemistry, and experimental physics. The groundwork of all these subjects could be taught in secondary schools. He considered that youths who were being trained in business should become acquainted with the economic causes which might affect the industry in which they were engaged. Questions of freight, of tariff, of the relations between capitalists and labourers, were of vital importance to the business man.

Professor SEELEY having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

COLLEGE OF PRECEPTORS.

DISTRIBUTION OF DIPLOMAS, PRIZES, AND CERTIFICATES.

THE Public Distribution of Diplomas, Prizes, and Certificates, to the successful candidates at the last Christmas examinations, took place at the College of Preceptors, Bloomsbury Square, on Tuesday, the 28th of February.

The Chair was occupied by Sir CHARLES HALL, K.C.M.G., Q.C., M.P., who was supported on the platform by Mr. H. W. Eve, Dean of the College, Mr. E. E. Pinches, Treasurer, Mr. Atkinson, Mr. Barlet, Mr. Bidlake, Mr. Brown, Mr. Charles, Dr. Dillon, Mr. Hagreen, Mr. Kimber, Dr. Poole, Mr. Reynolds, Rev. R. O. T. Thorpe, Dr. Weymouth, and others.

The CHAIRMAN, in opening the proceedings, said:—

Ladies and Gentlemen,—I must confess that, when I accepted the invitation of the Council to be here to-day to present these prizes and certificates, I had but a very superficial knowledge of the extent and nature of the work of this institution. I had only got such information as one gathers by what are somewhat euphemistically called the ordinary channels of information—that is to say, I had only read cursorily in the newspapers the previous proceedings of this body. I must confess that, when I had an opportunity of glancing at the Calendar, and of reading the reports of the Council and of the Dean, I realized the magnitude and the extent of the remarkable work which this College is doing, and has done in the past. Perhaps it would be fitting that I should, at the outset, say one or two words with regard to the Reports, which I have no doubt many of you have in your hands. There is one matter, which is a subject of congratulation to all of us, which we gather from the Report of the Council, and that is, that there is a steady increase in the number of the teachers who apply for diplomas, and in the number of the pupils who compete for certificates. I commence, first of all, with the figures that we are given as to the number of teachers who were examined for the College diplomas. I find that there were 144 who attended, there being examinations at nine local centres, including Hong Kong, Darjeeling, and Lahore, and that no fewer than 62 were ladies. If you add to them the number who came up for examination in July—viz., 87—you find that no less than 231 came up for diplomas in the course of the past year. At first sight, you may think that the number of those who were successful bears a somewhat small proportion to the number of those who came up for examination. I do not know whether to call this a matter for congratulation, for it is very hard, undoubtedly, on the unsuccessful candidates; but it is, at any rate, an earnest to the public, and to all those who take an interest in this College, to know that the Examinations are conducted, if I may say so, on strict lines, and that the public may be certain that those teachers who do gain diplomas at this College have done good work. I know of no matter which gives more cause for thought to the hard-working people, especially those in the middle class who have children to educate, than to try and find out for themselves how they can be most certain of giving to their children that priceless boon, a good education. If they are not able to find teachers who are able to show that they possess the proper qualifications, and that those qualifications have been vouched for by a strict and severe examination, parents very often find, to their cost, that it is a great lottery whether or not their children receive the education they are willing to pay for and they desire to give them. I pass from these figures, to call your attention to the—I was going to say appalling, but that would be a wrong epithet—the astounding number of pupils who came forward for certificates in the past year. At the Christmas examination there were 10,444 candidates, of whom no fewer than 4,988 were girls. If we add to that number the 5,419 who came up for examination at Midsummer, we have a grand total of nearly 16,000 pupils who were examined for certificates during the past year. These are figures which speak for themselves. If there could be anything more likely to act as an incentive to those who have the conduct of this great institution, it must be the successful result which the Council and Dean are able to point to in the past year and the years which have preceded it.

Now, passing away from these figures, I should wish first to say one or two words upon a matter which I know has interested especially the members of the Council, and that is with regard to the proceedings taken in Parliament during the last few years. I have had the opportunity of reading the very interesting address of my friend, Sir Gainsford Bruce, who distributed the prizes here last April; and also the exceedingly eloquent, thoughtful, and scholarly address of Dr. Fitch, who presided here last July. Sir Gainsford Bruce was able to speak to you on the principal subject that has been brought forward in Parliament which would affect this body; he has been able to speak upon that with no slight authority, for he served upon the Select Committee which had to deal with the matter. I have had an opportunity of talking it over with Sir Richard Temple, who had the conduct of the Bill, and who has the conduct of the Bill again in Parliament this session; and I only wish I could give the Council more hope than I can after what I have heard from him. In the first place, even if the Bill were not opposed, there would be a very considerable difficulty in getting it passed into law, because circumstances, over which we, at any rate, who are called private members, have no control, have made it exceedingly likely that

there will be no private legislation done by private members this session. We have already had the time of the private members of Parliament practically swallowed up in the voracious maw of the Government. I am not speaking as a "party" man at all—I should say the same whichever side was in power. Their time has been taken up, and we have had, I will not say a very mild intimation, but a direct intimation that a similar process will be gone through when the House re-assembles after Easter. If that were not a sufficient bar to the hope of being able to carry out a Registration Bill this session, I have found out from Sir Richard Temple that the Bill is practically being opposed by a body representing the public elementary teachers, who wish to have the Bill extended so as to bring them within its purview. Those who have looked at the Bill from the point of view of this College, see no necessity for this. The public teachers have a system of registration already, and are a far larger body than the secondary teachers. If they had their way, they would be able to swamp entirely the secondary teachers, those being the teachers whom we wish to have the benefit of registration proposed by the Bill. I am sorry to give you such words of cold comfort, but it is far better to know what the truth is than to live in a fool's paradise. I have hopes a time will come when we shall be able to use the time of Parliament for pressing forward domestic and social legislation. I hope, when the time comes, the Teachers' Registration Bill will be one of those which will be earliest in the field, and be carried out.

Having dealt with that, I should like to say one word to the teachers who are here present. I want to point out to them that which I have no doubt all of those who have considered the matter thoughtfully have already found out for themselves, and that is that the art of teaching is one which, although it may be studied, and although it may be taught to a very great extent, does not rest there. Teaching, as an art, would be poor indeed if it were not accompanied by the almost priceless gift of personal influence and personal interest. What a teacher wants to do is to get his or her pupil interested in the subject that is being taught; and not only interested, but taught to understand what the object of the work is. Now let me give you an illustration from my own personal experience. Perhaps I am qualified to speak upon this for one reason, if for no other. I began my scholastic training at an earlier age than most of you in this room; when I was only six-and-a-half years old, I was sent to a school where there were eighty or ninety boys, of ages ranging from six to nineteen. That was in the days of what were called large private schools. I was set to work there and then. In not a very long time, I had begun to read my Latin Grammar and my Greek Grammar; but no one took the slightest trouble to teach me what grammar was for, or what its meaning was. It was dinned into me like a parrot, and I am happy to say it stuck there; but it was not until years afterwards that I realized why grammar was grammar, and what it meant. As time goes on, and I think this over, I look back with indignation upon the way I was taught. Before I was twelve years old, the class in which I was was set to work at one of the works of Euripides, the great drama of "Hecuba." By the aid of a grammar and dictionary, I was able to pass a creditable examination so far as translation and parsing was concerned. But as I knew nothing about "what Hecuba was to me or I to Hecuba," or what the drama was, or what the beauty of the plot, I was absolutely at a loss to understand it, and for a long time afterwards the only thing that recalled Hecuba to my mind was that it was a play in which a lady had put out a gentleman's eyes in a very unmerciful manner. It was only in after years, when I looked back and read the play for myself, and when my eyes had been opened by a teacher who took the trouble to show me what a beautiful masterpiece I was studying, that I realized the years I had wasted in learning a thing practically by rote. I can assure those who are going to be engaged in teaching, that if you are only able to get your pupils to take an interest in their work, not only will the success you will achieve be tenfold what it would be otherwise, but your efforts will be always remembered with admiration by your former pupils. I look back to the time when I was a boy at Harrow, and I remember the masters who taught me to take an interest in my work, and made me see what a perfectly different thing it was to that which I had dinned in my ears only a few months before.

I do not wish to occupy your time at any length, but I should wish to say one or two words as to the prizes that I see before me. I wish to congratulate those who have succeeded upon the pardonable pride which they must feel in having borne away these prizes. I also wish to say a word to those who have com-

peted, but have not been successful. I want to assure them that every one who has done hard work has won their prize, although they will not receive it to-day. They have done their work, and they will find the benefit of it. As sure as after seed is put into the ground the harvest-time brings forth a golden harvest, so too every atom of knowledge which you have stored up for yourselves in your minds will bring forth fruit, not merely in one season or harvest, but in every year of your life to come. Let me remind you that, although you have now got your certificates, your education has only just commenced. Education, therefore, not merely consists in being taught by teachers and masters, but mainly, to my mind, in what a man or woman teaches himself or herself. You can be, and you ought to be, educating yourselves practically the whole of your life. In education, let me remind you of one thing, and that is, do not put out of sight what appear to be very simple qualities and attainments. Especially to the boys and young men I see around me, there is one thing I would invite them to study—it is one of the most useful things that a man or a youth can possess—and that is to study legible handwriting, not beautiful handwriting. I remember there is an old saying amongst lawyers, of a very famous conveyancer of the name of Preston; it was always said of him that he had three handwritings—one that he could read himself, one that his clerk could read, and one that neither of them could read. Let me advise you all to take care to have a handwriting that not only you can read, or Mr. Preston's clerk can read, but one that any man can read, and let it be a handwriting that people can read in a hurry.

There is one other thing I should like to say with regard to education, especially self-education, and that is the enormous field there is, and opportunity there is, for study in self-education now. We have advantages now, or rather you have, that certainly were not possessed at the time I left school and went to college; we have the advantages of libraries now all over the kingdom, advantages that cannot be over-estimated, and it is within everybody's reach now to be able to obtain the best class of literature with which to beguile their leisure hours. A short time ago there was a very interesting discussion started in one of the reviews as to which were the hundred best books for people to read. Men of letters, men of science, men in the great professions, men of distinction in every field and phase of life, were invited to send in their own ideas as to what the hundred best books were, and I may tell you that you will be pretty safe if you look in any one of those lists and read the hundred books. You will find that the time will not be wasted; and you will find, to your amazement, what a short time it takes to read a number of good books, even if you study them. Beyond all that there is one book for ceaseless study, containing by far the largest amount of wisdom and law, a book of which a man who lately passed away from among us, a man who commenced his life as a teacher, and subsequently achieved almost the highest position in the State—I refer to Lord Sherbrooke, better known under the old House of Commons name as Bob Lowe—when writing one of the lovely poems which he wrote towards the close of his laborious life, used these words:—

"Search in the tablets of thy heart, and scan
The mighty truths that God has graven there;
Read the glad tidings of the Son of Man,
Truth still the same, though yet more full and fair:
Read well thy Bible, and thy heart, and then
Come here and learn that lesson o'er again."

The diplomas, prizes, and certificates were then distributed, after which the Dean of the College, Mr. H. W. EVE, said he had listened with much pleasure to the interesting and eloquent address of Sir Charles Hall, and it was with great satisfaction he welcomed him to what might be said was one of the most useful and commodious buildings in his (Sir Charles Hall's) constituency. He said this quite apart from party politics, for the College of Preceptors, although such a fine building, had not even a vote to bestow. Sir Charles was himself one of the greatest anomalies in modern English history. It was the general rule of the English Constitution that high judicial office and a seat in the House of Commons were incompatible, but, happily, in the British Constitution there was hardly a rule without some exception. Many years ago, Lord Macaulay pleaded most eloquently in the House, and completely changed the opinion of the House, upon the question as to whether the Master of the Rolls should have a seat in the House of Commons. In spite of Lord Macaulay, years afterwards that anomaly disappeared; but he was glad to say they had still the anomaly by which the Recorder of London,

who so worthily occupied the chair once occupied by Sir Russell Gurney, was also a member of the House of Commons. Having given this historical lecture, he might be permitted to say one or two words apropos of the subject which had been brought before them by the Chairman. With regard to the opposition that had been shown to the Registration Bill brought in by Sir Richard Temple, it was, perhaps, not to be wondered at that the elementary teachers should fancy that their interests were indirectly affected, and should therefore oppose the Bill. He trusted that both that Bill, and the one that had been brought in by Mr. Hobhouse, would at any rate be discussed in the House of Commons. It was not likely that either would be passed this year, but it was important that public opinion should ripen on both sides. That registration must come, after the elaborate and careful way in which the matter had been gone into by the Select Committee, was very probable indeed; moreover, it was almost certain that, before long, they would have some organization of secondary education. The Council of the College had done their best to bring before the public some of the conditions under which that organization should be placed. It was all-important that it should not be of too cast-iron a character. One of the most valuable elements in English education was the great variety of the conditions under which good secondary education was given. Much as organization was needed in some directions, it would be a fatal blow if that variety were destroyed. In conclusion, he asked the meeting to accord a hearty vote of thanks to Sir Charles Hall for presiding.

Mr. BROWN, in seconding the vote of thanks, said he had been much struck with the wise and weighty words that had fallen from the Chairman. He had warned the Council that they were not to expect too much at present from the Registration Bill, and it was a great pleasure to the Council to feel that they had one in the House who had studied the matter for himself, and, having done so, had come to the same conclusion as the Council. To the teachers the most weighty words which fell from Sir Charles were those describing the personal influence of the teacher. No doubt, this was the source of success in all school teaching. As a principal of a large private school, he might say that he did not think that such a school as that described by Sir Charles could possibly exist now, or obtain a large number of pupils, owing to the fact that the public were better informed about education. The whole system was very much changed, and it was a source of gratification to teachers that this was so. There were, doubtless, many changes coming over the secondary education in years to come, and it would require the efforts of them all to see that in the future the education of children in secondary schools proceeded upon the right lines.

The resolution having been carried by acclamation,

The CHAIRMAN said:—I am very much obliged to you for the kind way in which you have received the resolution which has been so flatteringly proposed by the Dean, and seconded by Mr. Brown. I can assure you it gives me very great pleasure to accept the invitation to come here—a pleasure which certainly has not lessened since I have been here. To my mind it has been a most interesting portion of the afternoon, and I have followed the proceedings with very great pleasure, excepting, perhaps, when I was addressing you myself. The Dean has told you of one matter which I confess shocked me fearfully, and that was that this beautiful building, which he was quite right in saying would compare favourably with any other building in the Holborn division, was absolutely unrepresented in Parliament. I could hardly believe it. That I was shocked goes without saying, but that, I suppose, is one of those anomalies or one of those phenomena which the Dean has evidently studied. He has been kind enough to allude to me in my capacity of Recorder as well as a Member of Parliament. I can only assure you that it is at meetings like this, in the break of what I may call one's daily work, that one finds relaxation. I want to congratulate all of you to-day who have been prize-winners. I shall look out for the names, some of which will remain in my memory; and I shall look forward to the time when I shall see the name of J. L. Thomas standing at the head of the list in after-life.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A Meeting of the Council took place at the College, Bloomsbury Square, on the 22nd March. Present—Dr. Wormell, Vice-President, in the Chair; Miss Bailey, Rev. J. O. Bevan, Mr. Bidlake, Mr. Brown, Mr. Charles, Rev. Dr. Conder, Dr. Dillon, Mr. Eve, Mr. Harris, Miss Hughes, Mr. Kimber, Rev. R. Lee, Mr. Maxwell, Mr. Milne, Mr. Pinches, Mr. Reynolds, Rev. W. J. Savell, and Rev. Dr. Scott.

The minutes of the last meeting were read and confirmed.

The Secretary reported a considerable increase in the number of candidates at the Professional Preliminary Examination, as compared with the number of entries for the corresponding examination last year.

The diploma of Associate was granted to Mr. W. Machell, who had passed the required examination.

The report of the Special Committee on the "Bill to Promote Secondary Education in England" (1893) was adopted, and it was resolved that the Vice-President of the Committee of Council on Education should be asked to receive a deputation on the subject.

The following persons were elected members of the College:—

Miss F. Barnham, Vale View House, Devizes.

Mr. A. J. Buisseret, A.C.P., Collegiate School, Totland Bay, Isle of Wight.

Miss E. E. Bullock, A.C.P., Shakespeare House, Falcon Street, Ipswich.

Miss E. S. Burt, Haldon House, Colombarie, Jersey.

Mr. C. H. Crofts, M.A. Camb., Mowbray House, Norfolk Street, W.C.

Mr. J. F. Davenport, L.C.P., Meersbrook House School, Blackpool.

Rev. J. H. Newnum, M.A. Camb., Tilney Vicarage, King's Lynn.

Mr. G. W. Parlett, A.C.P., St. James' Collegiate School, Jersey.

Mr. T. B. Payton, 4 Pier Road, Northfleet, Kent.

Mr. W. Vine, Mount Radford School, Exeter.

The following books had been presented to the Library since the last Meeting of the Council:—

By THE AUTHORS.—Borland's Grammatical and Historical Papers on Cicero de Senectute; O. J. Vignole's Life of Charles Blacker Vignoles.

CLAY & SONS.—Black's Book of Judges (Cambridge Smaller Bible for Schools); Breul's Schiller's Maria Stuart; Holden's Plutarch's Life of Demosthenes; Schlottmann and Cartmell's Hauff's Das Wirthshaus im Spessart.

MACMILLAN & CO.—Edwards' Differential Calculus for Beginners; Jackson's Commercial Arithmetic; Macaulay's Tennyson's Holy Grail; Percival's Spenser's Faerie Queene; Pollard's Chaucer.

PHILIP & SON.—Popular Terrestrial Globe; Patent Revolving Orrery; Child-Life Almanac for 1893; Child-Life (a Kindergarten Journal) for 1891; Shilling Atlas of Modern Geography; Book of Memory Maps for Pupil-Teachers; Handy Volume Atlas of London; Alexander's Musical Drill, Part II.; Clegg's Elocutionary Specimens for Recitation and Reading; Conder's Palestine; Gouin's Art of Teaching and Studying Languages; Guillemard's Life of Ferdinand Magellan; Hopkins' Astronomy for Everyday Readers; Hughes and Williams' Class Book of Modern Geography, Advanced Class Book of Modern Geography, Elementary Class Book of Modern Geography; Geographical Manuals: Europe, Africa, America, Asia, British Isles, British Colonies and Dependencies; Johansson's Practical Directions for Making Slöjd Models; Johnstone's Livingstone; Latter's Knotting, Looping, and Plaiting; A. H. Markham's Sir John Franklin; C. R. Markham's Christopher Columbus, and John Davis the Navigator; McHardy's Elocutionist; Michell and Smith's Technical Education in the Counties; Nelson's Working Diagrams of Slöjd Models and Woodwork Course for Boys; Peters' "Paragon" Freehand Drawing Copies, Sets I. and II.; Ralfs' Rapid Road to Spanish, Parts I. and II., and Key; Shireff's Moral Training; Froebel and Herbert Spencer; Snell's Reading Made Easy, and Introduction to the same; Steinthal's Bandage Drill with Music for Children; Thomson's Mungo Park and the Niger; White's Development of Africa; Wilcocks' Practical Handbook of Drawing, Practical Drawing Cards (Set B, Kindergarten Series) and Practical Drawing Sheets, Sets A and I.-VI.; Williams' Geography of Australasia and Polynesia, and Popular Atlas of the British Empire.

WILLIAMS & NORGATE.—Kiepert's Atlas Antiquus.

Volta Bureau (Washington, U.S.A.).—Gordon's Notes and Observations on the Education of the Deaf.

Calendar of the University College of Wales, Aberystwith.

ST. PAUL'S SCHOOL.

THE new scheme of the Charity Commissioners for the management of St. Paul's School is now published. The old school, founded by Dean Colet in 1509, gave a free liberal education, under the terms of Colet's will, to 153 boys, the number of the fishes in the miraculous draught, and, while intended to benefit Londoners in particular, was open to natives of any part of England, and indeed of any country. The scholars were to be admitted "indifferently," without partiality or favour, and the Mercers' Company were enjoined to be faithful trustees, "as they would fear the wrath of God." Under these conditions the school existed in its buildings, twice renewed, on the east side of St. Paul's Churchyard. It held its own among English public schools, and in each century gave the country its fair proportion of eminent men—Milton, for example, and the great Duke of Marlborough. In 1884, thanks to the improved financial position of Colet's property, the school was able to leave its historic but incommodious quarters in the City for better air and ampler elbow-room at Hammersmith. New St. Paul's possesses at Hammersmith sixteen acres of land; its handsome red-brick building by Mr. Waterhouse is the chief feature of the Hammersmith Road; and its boys are an important element in the life of the new suburb that has grown up round about it. There are still 153 free scholars as of old, but the new building, with its eleven or twelve acres of playground, and all the appliances of a first-rate public school, receives in addition at least 450 other boys, who pay the usual fees chargeable at a day school. The removal and enlargement of the school has been from the first a conspicuous success. The boys have in recent years obtained more University distinctions than those of any other public school. It is not easy to discover the precise reasons that have

led to the drafting of the new scheme. Members of the London School Board and of the County Council have interested themselves in the matter, and local feeling has been excited in Fulham and Hammersmith and West Kensington.

The new scheme makes two important changes in the application of Colet's endowment. In the first place, two new schools are to be established, besides the existing St. Paul's School, to be called respectively "Dean Colet's Boys' School" and "Dean Colet's Girls' School." The amount of income paid to the three schools respectively is not to exceed in any one year the following sums:—St. Paul's School, £8000; Dean Colet's Boys' School, £2,500; and Dean Colet's Girls' School, £2,500. The governing bodies of the two new schools are to consist in each case of eleven persons, of whom seven are to be chosen by the governing body of St. Paul's School, two by the London County Council, and two by the London School Board. In the case of the girls' school, one of the representatives of the County Council and of the School Board must be a woman. For these two new schools, sites, including adequate playgrounds, are to be acquired within, or within the immediate neighbourhood of, the administrative County of London. They are to be "modern" schools; the one for about five hundred boys, the other for about four hundred girls. In both these schools scholarships entitling the holder to exemption from tuition fees are to be maintained at the rate of one such scholarship to every ten scholars. In each of them an annual sum of not less than £500 is to be awarded competitively in the form of leaving exhibitions, to be held at some place of higher education. The boys are to be taught English, French, German, arithmetic, mathematics, history, geography, natural science, Latin, drawing, shorthand, vocal music, drill, and other physical exercises. The girls are to learn English, Latin, French, German, arithmetic, mathematics, history, geography, natural science, domestic economy, calisthenics, laws of health, drawing, and vocal music.

The second important change made by the new scheme is a different and far more debatable matter. In fact, it has already been discussed and condemned at a large meeting of Old Paulines, held under the presidency of Mr. Baron Pollock, on February 8th, and at a meeting of parents of present pupils on March 11th. It will be seen at once that the following seventy-fifth clause of the scheme is likely to affect St. Paul's School very seriously. We quote the whole of it:—

"Of the foundation scholarships, one-third shall be awarded on entrance, according to the result of competitive examination, to candidates not over the age of sixteen years on the first day of the examination, who are and have been for at least two years scholars at any endowed school at which the ordinary tuition fee does not exceed £15 a year, and which is governed by scheme made under the Endowed Schools Acts, or to which are attached exhibitions governed by scheme under those Acts, or who have been for not less than three years scholars at any public elementary school. Every holder of a scholarship which is included in the said one-third of the scholarships shall be entitled to entire exemption from the payment of entrance and tuition fees. Any such scholarships for which there shall be no such duly qualified candidate who, on examination, shall be adjudged worthy to take it, shall for that turn be added to the remaining two-thirds, and with the remaining two-thirds of the scholarships shall be awarded according to the results of competitive examination under such regulations as the governors may make from time to time."

So that, of the one hundred and fifty-three scholars whom Colet ordered to be chosen indifferently and impartially, fifty-one, or one-third, are in future to be elected after limited competition, and practically from those who would have no chance of winning scholarships under the present system.

Section 12 of the Endowed Schools Act of 1873 allows two months for objections or suggestions to be addressed to the Charity Commissioners with respect to any or all of the clauses of the draft now put forth. Such objections or suggestions may be forwarded by any person or body, and alterations consequent thereon may be made by the Commissioners upon consideration of them.

It has already been made clear, perhaps even to the Commissioners, that those who object to the above clauses do not do so in any spirit of objection or hostility to the admission to St. Paul's School of pupils from certain endowed or public elementary schools.

There have been, and are now, such pupils in St. Paul's School, and their presence there is entirely consistent with the intentions of the founder, the traditions of the school, and the educational requirements of the present day. At the recent meeting of Old Paulines, Baron Pollock stated that those intentions and tradi-

tions were that the school should be open to boys of all classes, "without any distinction of rank or creed." That statement is the basis of the opposition to the draft clause that proposes to limit no less than one-third of the foundation benefits of the school to closed competition among boys of a particular and limited class from certain specified places.

At the largely attended meeting of parents and guardians of present pupils of St. Paul's School, held at Kensington Town Hall, the Rev. Prebendary Snowden, Vicar of Hammersmith, presided, and, in opening the proceedings, said that it seemed only reasonable that a school which had proved its worth so fully as St. Paul's had done should be allowed to continue its work without interference, and without the hazard of subjection to experiments. The scheme which the Commissioners had drafted was new and revolutionary; it brought in an idea which was totally contrary to that of the founder of St. Paul's School. It brought in local restrictions and qualifications. It would necessarily, in providing for the third part of its scholarships, introduce a much lower standard of educational efficiency, and thereby bring in a disturbing influence. He thought that by so doing it would be far from providing in the very best way for the advantage of those whom it was intended to benefit.

The Rev. A. R. Cavalier moved the following resolution:—

"That this meeting of parents and guardians of present Paulines views with extreme regret the proposals contained in Clause 75 of the new scheme proposed by the Charity Commissioners for St. Paul's School, believing that they are (a) unnecessary, because no sufficient reason exists for disturbing the present highly satisfactory working of the school; (b) unsatisfactory, because the school would no longer offer to the sons of all classes the same opportunity of competing for scholarships which they have enjoyed for nearly four hundred years; and (c) retrograde, because creating such restricted privileges as it is the aim and tendency of modern legislation to remove; and we are emphatically of opinion that the one hundred and fifty-three scholarships at St. Paul's School should remain absolutely open to all candidates, in accordance with the express directions of the founder."

He said that they would gladly welcome any effort to provide for intermediate education; but what they objected to was that there should be any restriction attaching to the scholarships after £5000 a year had been taken away from the funds of the estate. But after taking away that sum the scheme set forth that the amount provided by the Mercers' Company for St. Paul's School should henceforward be limited to £8000 a year. The expenses of the school at the present time were about £19,000 a year, and, if the grant from the Mercers' Company was limited to £8000 a year, there would be practically no margin whatever to meet incidental expenses. Any change in the working of the school was altogether unnecessary. The school at present was carrying out, with admirable fidelity, the wishes and will of the founder. It was a very dangerous and delicate thing indeed for the Charity Commissioners to attempt to unsettle the working of a school which depended so largely on the fees from the boys who attended it. The scheme would lower the standard of education and lead to class distinctions; it would also create a difference in the ages at which different boys would compete in the examinations.

Mr. Bidder, Q.C., seconded the resolution, and said the proposal seriously threatened the future of the school.

Mr. Barry supported the resolution.

In reply to a gentleman in the audience, who asked why the attack was only addressed to St. Paul's School,

The Chairman said that the first attack against St. Paul's was made by Fulham Vestry. Many of the tradesmen in Fulham found that they could not gain admission for their boys. They stirred up the London County Council, and the London County Council stirred up the Charity Commissioners.

The resolution was put, and carried unanimously.

UNIVERSITY INTELLIGENCE.

UNIVERSITY OF LONDON.

A Colonial January Matriculation List has just been posted. Candidates have passed at two centres only, viz., Mauritius (five candidates in the first division and two in the second), and Jamaica (one candidate in the first division and one in the second).

The following retirements among the examiners take place at Midsummer: *Scripture*, Mr. Spurrell; *Mental and Moral Science*, Professor William Knight; *Political Economy*, Professor Bastable; *Mathematics*, Dr. J. Larmor; *Physics*, both Professor FitzGerald and Professor Oliver Lodge; *Botany*, Professor Marshall Ward; *Physiology, &c.*, Mr. J. N. Langley; *Equity*, Mr. Horton Smith; *Anatomy*, Professor Macalister; *Materia Medica*, Dr. Frederick Taylor.

The volume of "Minutes of the Senate" for the year 1892 having now become accessible, we cull from it two or three pieces of information which may be of interest to our readers:—

In March, the Senate requested the Vice-Chancellor, Sir James Paget, to act as representative of the University at the Tercentenary celebration of the University of Dublin: and in July Sir James reported his attendance in that capacity, stating that he "was very cordially received, and was asked to express the congratulations of the Universities of Great Britain, her Colonies and Dependencies, with the exception of the Universities of Oxford and Cambridge, whose congratulations were expressed by their own Vice-Chancellors." (This was in recognition of the Imperial character of the University of London.) He also laid on the table a copy of the Latin Address presented by him on the occasion, the composition of which is attributed by rumour to a distinguished classical scholar in the Senate. The extreme modesty of the very juvenile University peeps out in the first paragraph: ". . . Nos quidem, ut vixdum pueritiam primam egressi, dispare nec digni videmur qui festo conventui intersimus et in gaudii communionem accedamus; sed ipsi quanto vetustate minores, tanto magis tot annorum decus miramur. . . ." The last paragraph reads: "Bene vero sit vobis, amplissimi viri, unicum decus et columnen Hiberniae, fretique Deo O.M., dissonis foedarum factionum clamoribus illaesi, cumuletis annos annis, dum instituto tenore pergitis, litterarumque et artium diu laude floreatis." The Address is signed by the Chancellor, Vice-Chancellor, Chairman of Convocation, and Registrar.

In a leading article on the University question, which appeared in this journal in January, mention is made of "mysterious allusions . . . to Resolutions of a Committee, which had not yet come before the Senate." It appears that these Resolutions were received and adopted by the Senate in December, and copies were ordered to be sent to the Gresham University Commissioners. There is nothing new in them: they are simply a boiling-down, a sort of *extractum carnis*, of the last Reconstitution Scheme, and re-assert the willingness of the Senate to establish Faculties and Boards of Studies; to incorporate teaching institutions of the higher rank; to institute professorships and lectureships, and promote original research; to accept grants, gifts, devises, legacies, and other funds, for University purposes; and to provide for the representation of the Professoriate upon the Senate.

One other matter of interest in the volume is the application of the donations made to the University by the late Viscount Sherbrooke and by the Chancellor, the Earl of Derby. The former of these donations was assigned, early in 1892, to the foundation of a prize (the "Sherbrooke Prize") to be offered every three years for the best essay, if of sufficient merit, on some scientific subject. It has now been decided to found, out of the Chancellor's donation, two prizes, to be called the "Granville Prizes," to be severally offered in each of the two years intervening between the years in which the Sherbrooke Prize is offered, and also for the best essay, if of sufficient merit, on some scientific subject. The Sherbrooke Prize will be offered in the years 1895, 1898, and so on; the Granville Prizes in the years 1896, 1897, 1899, 1900, and so on. We understand that particulars and conditions will be announced in the forthcoming Calendar of the University.

CAMBRIDGE.

The Chancellor's Medal for English Verse is adjudged to John Howard Bertram Masterman; deserving of honourable mention, Adolphus Alfred Jack, scholar of Peterhouse. Mr. J. H. B. Masterman, who has gained the Medal for the third time, is a scholar of St. John's, and has this term been President of the Union, where he is a fluent, agreeable, and frequent speaker. The only man who has won the medal three times hitherto was the late E. H. Bickersteth. Among those who have gained it twice are Macaulay, Praed, Kinglake, and F. W. H. Myers. It has only once during its eighty years' history fallen to one whose name is among the glorious in our poetry: this was in 1829, when it fell to "A. Tennyson, Trinity."

The Porson Prize for Greek Iambic Verse is adjudged to Henry William Moule, scholar of Corpus Christi College; deserving of honourable mention—(1) Lionel Horton Smith, scholar of St. John's College; and (2) the author of the Exercise bearing the following motto:—"Conamur tenues grandia."

The Powis Medal for Latin Hexameter Verse is not adjudged.

Sir William Browne's Medals are adjudged as follows:—For the Greek Ode: Lionel David Barnett, Trinity College; for the Latin Ode: Allan Beville Ramsay, scholar of King's College; for the Greek Epigram: Lionel David Barnett, Trinity College; for the Latin Epigram: Thomas Marris Taylor, scholar of Gonville and Caius College.

W. A. J. Archbold, M.A., late scholar of Peterhouse, has been appointed Assistant-Secretary for the Local Lectures, the appointment to date from April 18.

The Right Rev. the Lord Bishop of Peterborough has been appointed Hulsean Lecturer for the year 1893-4.

The Rev. J. R. Harmer, M.A., of Corpus Christi College, has been appointed to preach the Annual Sermon before the University, on the John Mere Foundation, at St. Bene't's Church on Easter Tuesday next.

E. B. England, M.A., Trinity College, has been approved by the General Board of Studies for the degree of Doctor in Letters.

Congregation has rejected by 75 votes to 47 the proposal to introduce archaeology into the examination for Part I. of the Classical Tripos.

A grant of £65 has been made from the Worts Travelling Scholars'

Fund to Mr. H. Woods, of St. John's College, to enable him to travel in Saxony and Bohemia to study the palaeontological correlation of their cretaceous rocks with those in England, and to make collections in illustration thereof, on the condition that he report the results of his investigations.

The honorary degree of Doctor in Science has been conferred on Prof. Rudolf von Virchow, the Rector Magnificus of the University of Berlin.

Mr. A. Crawford, B.A., has been elected to a Fellowship at King's College.

OXFORD.

W. H. Cozens-Hardy, B.A., New College, has been elected to the Geographical Studentship.

The Arnold Prize Essay has been awarded to J. F. Williams, B.A., Fellow of New College; Subject: "Constantine."

The Trustees of the Aubrey Hall Memorial have awarded a Studentship of £20 to Mr. Arthur E. Cowley, of Trinity College, to enable him to continue his study of Samaritan Liturgies by collation of MSS. in foreign libraries.

The Radcliffe Travelling Fellowships of £200 for three years have been awarded to Mr. E. A. Munchin and Mr. W. Ramsden, both of Keble College. In the case of the former, the usual declaration that the candidate intends to graduate in Medicine and to travel abroad for study has been dispensed with.

Dr. C. Lentzner, formerly of Berlin, has been appointed a University Extension Lecturer, his special subject being the Languages and Literatures of Modern Europe.

Mr. Bryce has resigned the Professorship of Civil Law. It is hoped that he may be persuaded to withdraw his resignation. He is one of the best and ablest non-resident Professors, and has formed a valuable link between learning and politics.

Mr. A. W. Hatherly, of St. John's, has been elected to the Dean Mansel Exhibition.

The Vinerian Law Scholarship has been awarded to Mr. W. M. Hunt, B.A., of Balliol. *Proxime accessit*—H. M. Giveen, B.A., of Wadham.

The Denyer and Johnson Theological Scholarships have been awarded to Mr. C. F. Burney, B.A., of St. John's, and Mr. J. G. Watt, B.A., non-collegiate student.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

The General Committee of the Borough Road College has appointed Mr. H. L. Withers, B.A., late Scholar of Balliol College, Oxford, to the Principalship of the British and Foreign School Society's College at Isleworth. Mr. Withers was educated at King's College School, and held an open scholarship in classics at Balliol. In 1884 he was placed in the first class in Classical Moderations, and in 1887 in the first class in Literæ Humaniores. He has since worked as a schoolmaster in a public elementary school at Oxford; in the City of London School; in the Manchester Grammar School, with Mr. Glazebrook; and at Clifton College as house-tutor in the headmaster's boarding-house. Mr. Barnett enters upon his duties as H.M. Inspector next month, and the new Principal is expected to take his place at Isleworth during Eastertide.

It is calculated that the interest on the £30,000 bequeathed to the University of St. Andrews by the late Sir William Taylor Thomson will yield yearly, when invested to the best advantage, £938. The University Court has arranged to establish six £30 bursaries, three £20 bursaries, and fifteen £15 bursaries. One-half of these is allocated to lady students. The bursaries are tenable for three years, and they will be divided so as to extend over that period, to allow yearly competitions. The conditions are that the competitors must first pass entire preliminary examinations, and those who are successful must attend two full classes at the United College. A preference will be given in the case of lady students who will sign a declaration that they intend, after the St. Andrews course, to study medicine. The University has also just received a legacy of £3950 from the late Major Simpson. The interest is estimated at £134 per year. It is proposed to institute from this fund six bursaries of £20 each for the first year. Altogether, fifty-four bursaries have just been founded, but it is the opinion of the University authorities that there will not be the slightest difficulty, from increased revenue in the future, to establish ten or twelve more.

We have to record, with very sincere regret, the death of Professor Minto of Aberdeen, a many-sided and most genial man, and a very able and enthusiastic teacher.

Professor David Masson of Edinburgh has been appointed Her Majesty's Historiographer for Scotland, in succession to the late Dr. W. F. Skene.

The following honorary degrees of LL.D. are to be conferred:—*Edinburgh*: Prof. A. Marshall (Cambridge), Prof. A. M. Stuart (Glasgow), Sir J. Buchanan, Dr. R. H. Traquair, Sir J. Lowthian Bell, Prof. John Rhys (Oxford), Lieut.-Col. Justin C. Roos, the Rev. Walter C. Smith. *St. Andrews*: Prof. H. E. Armstrong (London), Mr. C. H. Gatty, Mr. W. E. Henley, Mr. S. Laing, Mr. T. Wemyss Reid, Mr. W. Stuart (Glasgow), Mr. T. B. Sprague. *Aberdeen*: the Marquis of Huntly, Sir F. Bateman (Norwich), Prof. Crum Brown (Edinburgh), Mr. Charles Mitchell (Newcastle-on-Tyne), Prof. A. F. Murison (London).

Dr. John Berry Haycraft, Professor of Physiology in Mason College, Birmingham, has been elected to the newly founded chair of Physiology at University College of South Wales; and Dr. Alfred W. Hughes, Lecturer on Anatomy in the Surgeons' Square School of Medicine, Edinburgh, to the newly founded chair of Human Anatomy.

EDUCATIONAL NOTES AND SUMMARY.

OUR contemporary the *Schoolmaster* is usually so well informed and so fair in its criticism that it is with regret we read in it a comment on the Registration Bill which is based on misapprehension. Referring to Dr. Welldon's paper read to the Birmingham Teachers' Association, the *Schoolmaster* says: "One of those Bills is doing its best, by the exclusion of the 'Board School mistresses' and masters, to keep perpetually apart those whom Dr. Welldon would associate." The inference here is that if one section of the teaching profession asks for legislation for its own special and crying needs it is chargeable with an attempt to keep itself perpetually apart. We might easily point to the Superannuation Act, &c., and retort with a *tu quoque*, but instead we beg to assure the *Schoolmaster* that professional unity is the aim and wish of the promoters of Registration for Secondary Teachers. Their endeavour to set their own house in order is consistent with the belief that by so doing they are bringing their section to a level of efficiency and definiteness comparable with the organization of other sections, and are thus preparing the way for the unification of the profession. The wishes which Dr. Welldon so clearly and admirably expressed are fully and heartily shared by the promoters of Sir R. Temple's Bill.

DR. WELLDON'S words were as follows:—

"The different sections or strata of the profession have, in the past, been far too much isolated, far too self-centred and independent, and too much inclined to go their own way without giving a thought to their common corporate opportunities, duties, aims, and responsibilities—in a word, to that community of interest which makes them, and all the members of them, one. So strongly do I feel, alike on social and on intellectual grounds, the need of unifying the educational profession, so anxious am I to associate all teachers, from the most dignified of academic professors to the humblest and most hardly worked of School Board mistresses, in one comprehensive organization, that, for the sake of it, I would submit, if it were necessary, to what is regarded as the bugbear of the fortunate headmasters of public schools—a ministerial Department of Education. Meanwhile, however, it is pleasant to think that steps are being taken, though, as yet, only tentatively, towards unification. The two Bills which were presented to the last Parliament for the compulsory registration of teachers would help to consolidate the teaching body. So, too, if the definite training of teachers comes, in time, as it probably will, to be recognised as a necessary part of educational science, it will prove a bond between teachers of all educational grades. Still, if something has already been done, much remains undone; and so long as an artificial barrier, however it may have been erected, seems to interpose between one school or one schoolmaster and another, it can do no harm for me to shake hands with you across it, and, while asking your kindly sympathy for my work, to bid you heartily and respectfully God speed in your own. We are all members of the educational profession."

The promoters of Sir Richard Temple's Bill can heartily and conscientiously subscribe to this declaration, believing, as they do, that a Registration of Secondary Teachers would be a step towards the unification and consolidation of the profession.

THE School Boards are beginning to show great anxiety to have the organization of secondary education placed under their care. Here is a petition that comes from Bradford:—

"The petition of the Education Committee of the Bradford School Board sheweth that the Committee has considered the Secondary Education Bill recently introduced to Parliament, and is of opinion that as the proposed powers of local authorities would relate entirely to educational affairs, such powers should be placed in the hands of the educational authority of the district rather than the sanitary authority, in the same way as in Scotland. The Committee, therefore, prays that the proposed powers should devolve upon School Boards, instead of County Councils, and that the areas of the smaller School Boards should be enlarged so as to form suitable districts for the purposes of the Bill in all parts of the country."

At a conference of School Boards held at Manchester on the 21st March, the following resolutions were adopted:—

"1. That, in the opinion of this Conference, it is essential to the effective improvement and full extension of education in this country, that elementary, secondary, and technical education should in every district be under the management of one body or authority so far as such education may need aid from the local rate, and that this body should be elected solely for educational work.

"2. Further, that as such educational bodies already exist in the form of School Boards, many of which have already established excellent higher grade and technical schools, this Conference strongly urges that the English Education Acts be consolidated and so amended that School Boards shall be entrusted with the management of general education,

as they are in Scotland; therefore, this Conference concurs in the judgment expressed in Mr. Acland's notice of motion that 'only by the universal establishment of School Boards throughout England and Wales, with areas of adequate size under their control, can this country hope to obtain, in a thoroughly satisfactory form, for the more intelligent and capable children of the working classes, that higher elementary education, general and technical, which is so essential to the welfare and so vital to the progress of the United Kingdom in its industrial and commercial struggle with other countries.'

"3. That the recognition of higher grade schools in the proposed Secondary Education (England) Bill (section 16) is inadequate, as it gives no security that funds will be forthcoming for their proper maintenance; that the Education Department be asked to support these higher grade schools, subject to proper conditions (as recommended by the Royal Commission on the Elementary Education Acts), by a modification of the system under which grants are now paid by the Science and Art Department."

THE following resolution has been adopted by the National Education Association:—

"The establishment of Secondary Education, which is now imminent, makes it the more important that School Boards of suitable and sufficient area and population should be established in the rural districts; that School Boards should be universal throughout the whole country; and that School Boards should hereafter be the bodies to whom, and in the case of rural districts under the supervision of larger governing bodies, the local management of public secondary schools should be assigned.

"The representative bodies, under whose control secondary education should be placed, ought to be specially chosen on educational grounds, and ought not to be charged with this function in addition to other municipal duties.

"So long as County Councils and Municipal Councils are, under the Technical Instruction Acts, entrusted with the control of secondary and technical education, they should be required to exercise the powers now permitted to them of appointing committees, specially chosen with a view to their educational fitness. In municipal boroughs the School Board, where it exists, should have a substantial representation on such a committee, and in counties, until universal School Boards of suitable area are created, the existing local School Boards should be largely represented on the local boards of management of secondary and technical schools.

"In any scheme for establishing public secondary schools, it should be fully recognised that what were described as third grade schools in the Report of the Schools Enquiry Commission, 1868, are a necessary part of elementary education, and nothing should be done to hinder the further establishment of higher grade elementary schools, such as the Leeds Central School, the Deansgate Central School at Manchester, and other higher grade schools, whether conducted as organized science schools, or giving a more general education."

THE Gilchrist Trustees have elected the following five ladies to the Special Gilchrist Travelling Scholarships for Women Teachers to America this year:—Miss Amy Bramwell, B.Sc., Ladies' College, Cheltenham; Miss Sara A. Burstall, B.A., North London Collegiate School for Girls; Miss H. M. Hughes, Training Department, University College of South Wales, Cardiff; Miss Mary E. Page, Headmistress, Skinners' Company's School for Girls; and Miss Alice Zimmern, High School for Girls, Tunbridge Wells. Each lady will receive £100 to enable her to spend two months in studying and reporting upon secondary schools and institutions for the training of women in different parts of the United States. The trustees propose to publish the reports, which it is hoped will prove of value as a contribution towards the solution of some of the problems of secondary education in England.

SIGNOR MARTINI, the Italian Minister of Education, has issued a very drastic minute in regard to the payment of teachers' salaries. He decrees that the local official treasurer must pay the salaries of the teachers in his district as soon as they become due. The emptiness of the exchequer will not absolve the treasurer from his obligation; he must, if necessary, advance the money from his own pocket, reimbursing himself from the first public funds that he receives, and charging the legal rate of interest on the sum advanced. The new minute has received the approval of the Senate, and was rigidly enforced as from the 1st January, 1893.

At a meeting held at the offices of the School Board for London, some time since, a committee was formed for the purpose of raising a memorial to the late Mr. Matthew Arnold; and a desire was expressed that the memorial should take a form which would associate it with the public elementary schools of Westminster, and also with the office of H.M. Inspector of Schools, which Mr. Matthew Arnold so long and so ably filled in that district.

At a subsequent meeting, the committee resolved that the best method of carrying this object into effect would be by the establishment of annual prizes for proficiency in English Literature, to be competed for by children attending all public elementary schools in the School Board division of Westminster, and that such prizes should be called "The Arnold Prizes." The committee desire to raise a capital sum of not less than £300, in order to provide an income for the purchase of suitable prizes, and they hope that managers, teachers, and children will co-operate in raising this memorial. It has been determined that the subscription of a teacher shall be from 6d. to 5s., and that of a scholar shall not exceed 1d. There has been some delay in carrying out this object, owing to a desire that the large memorial from old friends and others, in the form of a marble bust in Westminster Abbey, &c., might be fully completed and take effect before further action was taken to commemorate the late Matthew Arnold as H.M. Inspector of Schools for Westminster.

WE regret to learn that the Russification of the University of Dorpat—no longer Dorpat, by the bye, but, by order of the Government, to be called henceforth Imrjew—to which we called attention before, is expected to be completed shortly by the introduction of the Russian language into *all* the faculties. The Pro-Rector of the University and the Dean of the Historical and Philosophical Faculty have resigned in consequence. We also hear that the partly dilapidated picturesque Cathedral, in the preserved portions of which the University Library was hitherto located, is to give way to the erection of a Græco-Orthodox Church, and the Protestant University Church is to be converted into a library.

By virtue of the attitude of the Government, as set forth in the speeches of the Chancellor of the Exchequer and the Vice-President of the Committee of Council, Parliament stands committed, says the *School Board Chronicle*, to the establishment of a "national State-aided system of superannuation for teachers in public elementary schools in England and Wales," and the fruition of the resolution is only a question of time. The project has come forward with rapid strides, and is now within almost measurable distance of legislation. It is impossible to doubt that this progress is to a large extent due to the position which Mr. Acland has gained in the Councils of State. His action as a member of the Select Committee did much to bring the question into a practical shape, and he almost passed from the Select Committee Room to the Council Office. Such a speech as that of the Vice-President of the Council upon Sir Richard Temple's motion renders it practically impossible that the question should fall back to its old and uncertain position. Meanwhile the provision of £6,500 in redemption of Parliament's responsibility for superannuation allowances for the teachers of more than a generation ago will tend to remove to some extent an old and painful grievance.

CLASSES in woodwork, chip-carving, cardboard work, metal work, &c., will be held during the summer holidays, for ladies and gentlemen at Leipsic, under the direction of Dr. Götze. The cost for four weeks, including travelling expenses, can be kept within £12. Prospectuses can be obtained from Mr. G. H. Harris, 17 Connaught Road, Harlesden, on receipt of a stamped directed envelope.

On Friday, March 24th, at St. Martin's Town Hall, Charing Cross, the Froebel Society held its Annual General Meeting; this consisted of a business meeting followed by one open to the public. At the former Mr. H. Courthope Bowen occupied the chair. In presenting the report and balance-sheet Mr. Bowen called attention to two facts—the discouraging fact that, while the work of the Society showed no tendency to decrease, the subscriptions did, and in consequence financial difficulties were becoming serious. After so many years of hard and useful work this was very discouraging. The public and teachers should not allow such things to be. The other fact was one of great encouragement. The Society, in conjunction with the Kindergarten Company of Bedford, examine and award certificates. The Examining Board is called "The National Froebel Union." Its certificates are the only ones universally recognised. In 1887 the number of candidates was 72; in 1891 the number had risen to 232; and last year they had reached 304; while there was little doubt that in 1893 they would be over 400. These certificates were now recognised by the Education Department for assistant-mistresses in infant schools. Circular No. 322, recently issued

by the Department, was frankly Froebellian. The business having been concluded, Canon Daniel took the chair and delivered an excellent and stirring address. There were present Miss Shirreff, Madame Michaelis, Mrs. Shirreff-Hilton, Mr. H. K. Moore, Mrs. Alfred Marshall, Mrs. Walter Ward, Miss Manning, Mrs. Berry, Miss Kate Phillips, and many others. Miss Shirreff read a very interesting paper on "The Life and Work of Froebel's most distinguished disciple, the Baroness von Marenholtz Bülow," who recently died at the age of seventy-seven. In his address Canon Daniel dealt mainly with the value to the teacher of the training which the Society encouraged. He brought out very clearly and strikingly the educative value of nature-knowledge (plants and animals and common phenomena), black-board drawing, and the games and stories used in the Kindergarten. Above all he insisted upon the necessity for a sound knowledge of the principles which underlie the whole of Froebel's system of education. Principles, ideas, were light-giving and life-giving. Methods used in ignorance of their meaning were of little value to any one. He concluded with an earnest appeal for greater financial support to the Society, which had done and was still doing such excellent public service. Before the meeting closed a donation of ten pounds was announced from Mr. C. G. Montefiore.

SIR PHILIP MAGNUS's able and comprehensive address at the Society of Arts, on "The Progress and Prospects of Technical Education," is most helpful at the present moment. He states with perfect clearness the principles which the experience—achievements and errors—of the past few years have proved, and which therefore form the basis for future organization. The public has already learnt that technical education is not an altogether new and separate kind of training, but is closely connected with, and enters into, as an essential part of, elementary, secondary, and higher education. The establishment of this fact has cleared away many errors. Sir Philip Magnus also lays down the following additional principles:—(1) All trade teaching should be associated with drawing, or should have reference to the principles of science underlying it; in other words, it should rest on a basis of theory. (2) The teaching should be illustrated by reference to the instruments used in the trade. Hence the necessity of apparatus and tools, and of laboratory and workshop appliances. (3) The instruction must be wider than the section of the trade in which the student is engaged. It must help to correct the cramping influence, and must not too closely follow the course, of the division of labour. (4) The teaching should be primarily adapted to the requirements of students engaged in the actual practice of the trade, and not to amateurs.

In the Egyptian Hall of the Mansion House, Professor Jebb, M.P., Regius Professor of Greek in the University of Cambridge, delivered the annual address to the students of the London Society for the Extension of University Teaching. The Lord Mayor presided. Professor Jebb spoke of "The Influence of the Greek Mind in Modern Life," saying that the circumstances in the working of the society during the last few years rendered the choice of that subject an appropriate one. Large and constantly increasing numbers of men and women of all classes and callings were beginning to apprehend the twofold claim which entitled Greek to a prominent place in a liberal education. The first claim arose from its intrinsic power of satisfying mental and moral needs; and there was, in the second place, the historical claim arising from the relation of Greece to the literature and the life of subsequent ages. Imperfect though our knowledge was, did it not warrant the belief that no people had yet appeared upon the earth whose faculty for art, in the largest sense of the term, was at once so fine and so comprehensive as the Greek? It was from the classical literature of Greece, however, that the mind of the race was most fully known to us, and Macaulay said that thence had sprung all the noblest creations of the human intellect. Greek influence had acted upon modern life and literature even more widely as a pervading and a quickening spirit than as an exemplar of form. The distinctive quality of its best literature was the faculty of rising from the earth into the clearer air; to borrow Plato's phrase, it was "the power of the wind on the human soul." All that was most beautiful and instructive in Greek achievement was our permanent possession, and it could be enjoyed without detriment to those other studies which modern life demanded. Neither Latin, nor German, nor even French lost so much by translation as Greek. Greek was the most perfect among the forms of human speech; in fact, it was a perfect organ of expression. They ought all to rejoice in

the remarkable success of the experiment that that society had made in teaching the language. It was not, he rejoiced to think, a chimerical hope that that important movement under which classes were carried on under the Extension Society's system would mark the beginning of a time when a knowledge of Greek at first hand would be much more widely diffused.

THE University of New Zealand, which attained its majority in 1892, has an excellent record to show. In 1891, 782 persons were examined for Matriculation, degrees, &c., and last year the numbers rose to 903. Of these 408 were candidates for Matriculation, 210 for the first or second stage of the first degree (B.A., B.Sc., &c.), 36 for Honours in Arts, and the remainder for higher degrees, or for certificates qualifying for practice in Law or Medicine. In the same year 48 persons, of whom 12 were women, proceeded to their first degree, and 130 appear in the calendar as students who have kept one year's terms—a remarkable result for a population of about two-thirds of a million, including but few of the leisured classes. Two points in the organization of the University deserve special notice. The examinations for both stages of the B.A. and B.Sc., and for the higher degrees, are conducted by examiners resident in the mother country, including men of the very highest distinction in their several branches of study. It would be difficult to devise a better method of keeping in touch with older and larger educational centres. Another difficult problem has been solved in a way that might, perhaps, commend itself to the Royal Commission now engaged on the thorny question of University Education in London. Candidates for degrees are, as a rule, expected to have attended lectures at an affiliated college, but exception is granted to students engaged in learning a trade or profession, or in earning their livelihood, as well as to those residing more than ten miles from such a college. These students are required, however, to enter their names on the college books, and to pass its examinations, as well as those of the University.

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending March 31st, 1893.

- Addis's (W. E.) Christianity and the Roman Empire, 3s. 6d. cl.
 Aegyptische Urkunden aus den Museen zu Berlin, Part 4, 2m. 40.
 Aeschylus's Oresteia, translated into English Prose by L. Campbell, with Introduction, cr. 3vo. 5s. buckram.
 Bourin (E.) et Challamel (A.): Dictionnaire de la Révolution Française, 15 fr.
 Brink (B. ten): Geschichte der englischen Litteratur, Vol. 2, Part 2, 6m. 50.
 Cassell's History of England, Jubilee Edition, Vol. 6, 9s. cl.
 Chatelain (E.): La Paléographie des Classiques latins, Part 1, 105fr.
 Chuquet (A.): J. J. Rousseau, 2fr.
 Cicero de Oratore, Book 1, translated into English, with Introduction, by E. N. P. Moor, cr. 8vo, 3s. 6d. buckram.
 Cicero, Orations Cæsarianæ, pro Marcello, pro Ligario, pro Lege Deiotaro, edited by Rev. W. Y. Fausset, 12mo, 2s. 6d.
 Demosthenes's Oration upon the Crown, translated by Henry Lord Brougham, cr. 8vo. 2s. 6d. cl.
 Dryden's (J.) Poetical Works, cr. 8vo, 3s. 6d. cl.
 Farrar's (F. W.) The First Book of Kings, cr. 8vo, 7s. 6d. cl.
 Fretay (Halma du): Les Origines du Monde, 3fr. 50.
 Fronde's (J. A.) History of England, Vols. 1 and 2, 3s. 6d. each.
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 Glazebrook's (R. T.) Laws and Properties of Matter, 2s. 6d. cl.
 Gröber (G.): Grundriss der romanischen Philologie, Vol. 2, Div. 1, Part 1, 4m.
 Jackson's (S.) Commercial Arithmetic, 12mo, 3s. 6d. cl.
 Kayser's (E.) Text-Book of Comparative Geology, translated and edited by P. Lake, illustrated, 8vo, 18s. cl.
 Kcefe's (J.) English Composition and Essay-Writing for Civil Service, cr. 8vo, 2s. 6d. bds.
 Körting (G.): Formenlehre der französischen Sprache, Vol. 1, 8m.
 Ledsham's Word Building, Spelling Lessons for Infant Schools, 4s. 6d. on roller.
 Longman's German Grammar, by J. U. Ransom, cr. 8vo, 3s.
 Mackenzie's (J.) Manual of Ethics, cr. 8vo, 6s. 6d. cl.
 Milton's Paradise Lost, Books 1 and 2, with Introduction, &c., by A. W. Verity, 12mo, 2s. cl.
 Mivart's (St. G.) Types of Animal Life, cr. 8vo, 6s. cl.
 Morfill's (W. R.) Poland, cr. 8vo, 5s. cl. (Story of the Nations.)
 Ponsard's (F.) Charlotte Corday, edited, with Grammatical and Explanatory Notes, by J. F. Davis, cr. 8vo, 2s. cl.
 Rein's (Prof. W.) Outlines of Pedagogics, translated by C. C. and Ida J. van Liew, cr. 8vo, 3s. cl.
 Ropes's (J. C.) The Campaign of Waterloo, a Military History, 8vo, 12s. 6d. cl.; Atlas, 4to, 21s. net.
 Rousseau's Emile, or Treatise on Education, abridged, translated, and annotated by Payne, cr. 8vo, 6s. cl.
 Russell's (J. W.) An Elementary Treatise on Pure Geometry, cr. 8vo, 10s. 6d. cl.
 Seebohm's (H.) Geographical Distribution of British Birds, royal 8vo, sewed, 7s. 6d. net.
 Six Years' Pupil Teachers' Questions, 1886-1891, with Answers to Arithmetic, Algebra, and Mensuration, 3s. 6d.
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THE EDUCATIONAL TIMES.

LONDON, APRIL 1, 1893.

In our last issue we referred to the "Bill to Promote Secondary Education in England," introduced by Mr. H. Hobhouse, Sir H. Roscoe, and Sir J. Lubbock, at the opening of the session, and which was down for second reading on the 7th of March. Its position on the orders rendered its discussion on that day more than probable; but it was, in fact, not reached, and its chances of consideration during the present session must now be regarded as somewhat remote.

The new Bill differs from that bearing the same title which was introduced last session by Mr. Acland, the present Vice-President of the Committee of Council on Education, by one or two additions; for instance, under it "scholarships may be made tenable under suitable conditions at private schools." But these additions do not, in any way, touch the principle of the measure, which remains identically the same as in the Acland-Roscoe Bill. We now propose to examine the leading features of the Bill, and the probable outcome of it, if it were passed in its present form.

Roughly speaking, the secondary education of the country is provided for in three main classes of schools: viz., the endowed schools, the proprietary and denominational schools, and the private schools. How does the Bill propose to deal with these schools?

In the first place it assumes that these various agencies are in many localities either insufficient to supply the amount of secondary education required for the locality, or that the kind of education supplied by them is not suited to the needs of the locality. It therefore proposes to commit to the "local authority" the duty of inquiring and ascertaining whether there is, or is not, a sufficient provision for secondary education in the district; whether any or all of the secondary schools of the district (public or private) are efficient or inefficient; and whether the kind of education given in the existing schools is "suitable to the needs of the district." The test of the suitability, presumably, includes the questions of the cost of the education provided, and the kind, whether classical, modern, commercial, or industrial.

It is to be noted that all classes of schools, except the elementary, are brought within the scope of inquiry of the local authority. The endowed school, the proprietary school, the public company's school, are all equally made the subject of inquiry, as well as the private schools. The difficulties attending such an inquiry are apparent to everyone acquainted with the varied character of our secondary education, and the conditions under which it has grown up and is

now being carried on. Those to whom such duties are to be entrusted need to be men of special educational experience, of judicial character, and free from party or sectarian bias. The Bill proposes to add the decision of these complicated issues to the other multifarious duties of the recently established County Councils.

For the purposes of such initial inquiry and report, the County Council is to appoint a Secondary Education Committee, which may consist either entirely of its own members, or "partly of such members and partly of representatives of School Boards and other authorities within the district, or of such teachers or other persons as they may think fit"; but in any case the local School Board is to have at least two representatives on the Committee. Where there is already a Technical Education Committee appointed by the County Council, such Committee becomes *de facto* the Secondary Education Committee.

This is the first stage. If the Secondary Education Committee reports to the County Council that there is an inadequate supply of the special kind or kinds of secondary education suitable to the needs of the district, the Council may proceed to supply the want by establishing as many secondary schools as will, in its opinion, make up the deficiency. The cost of the establishment and maintenance of the new schools is to be provided for by a rate which is not to exceed a halfpenny in the pound, and to this may be added the whole or part of the money received from the spirit duties under the Local Taxation Act of 1890, which latter source of revenue, however, cannot be regarded as permanent. The local authority is also empowered to contract loans for carrying out the purposes of the Act.

Here, then, we have the essential principle of the Bill—the providing for secondary education out of the rates, just as the primary education of the country is already provided for under the Elementary Education Act of 1870. It was confidently asserted by Mr. Forster, in introducing his measure, that the charge on the rates would not exceed threepence in the pound. The London School Board rate now stands at three-and-a-half times that amount, and this is only part of the charge on the community of our elementary education. The annual cost of providing secondary education of a thoroughly efficient, though not extravagant kind, has been estimated at ten pounds per pupil. The number of children attending secondary schools may be put at between 700,000 and 800,000, by far the greater proportion of whom are at present receiving their education in private schools. Looking at these figures, we may form some notion of the magnitude of the work to be initiated by the County Councils at an annual cost which is not to exceed a halfpenny in the pound. There is no provision in the Bill for application to Parliament for enlarged powers of rating; but it is difficult to see how, after the new schools have been built and equipped, such application could be avoided; and it can hardly be supposed that Parliament, having accepted the principle of the Act, would decline to furnish the powers necessary to carry it out.

It is evident that the establishment of these rate-supported schools must seriously affect the endowed as well as the proprietary and private schools of the neighbourhood, having regard especially to the kind of education to be provided in the new schools, and the necessary lowness of their fees. Indeed, it will presently become a question whether

any fees at all should be charged for secondary education, when the elementary education, provided equally out of the rates, is supplied free. The framers of the Bill have apparently come to the same conclusion, for the second part of it is mainly taken up with elaborate provisions for the alteration of the schemes of the existing endowed schools, and the ultimate transfer of their endowments to the local authority.

We have not overlooked the fact that there are other purposes named in the Bill, to which the money to be raised by rate or loan may be applied; such as grants in aid of existing schools not conducted for private profit, the establishment or aiding of training institutions for teachers in secondary schools, and the provision of scholarships to be held at secondary schools. But the main object is evidently that to which precedence is given in the Bill—viz., the provision of new secondary schools—and with a view to which the local authority is expressly directed to make its initial inquiry, and is empowered to levy funds to give effect to its decisions.

Reference has been made to the provision in the Bill for the representation of School Boards on the Secondary Education Committees. This is, no doubt, in view of the very probable overlapping of the spheres of influence of the proposed new secondary schools and those already established by School Boards in various parts of the country for the supply of "higher elementary education." There is here, it cannot be denied, some risk of a clashing of authorities, and from the resolutions adopted at a recent important conference of managers of School Boards, held at Manchester on March 21st, as quoted in another column, it will be seen that already a claim is being put forward, on the part of the School Boards, to have the control of the secondary education handed over to them. As compared with the County Councils and their committees, there is apparently some ground for the pretension, in that the School Boards are elected for the special purpose of dealing with education, while the former are elected for very different purposes. We need not, at present, discuss the question whether or not the School Boards should be entrusted with the organization and control of the secondary as well as the primary education of the country; and merely note the point as further complicating the issues raised in the Bill.

On another occasion we propose to deal more fully with the various interests that would be affected by the passing of a measure such as that which is now before Parliament, and which, though brought in by a private member, derives exceptional importance from the fact that it was introduced in the first instance by the member of the present Government who fills the post of English Minister of Education. It will be recognised that the measure, as a whole, is little short of revolutionary in its character, and it is difficult to see how it can be expected to work in harmony with the existing conditions, or where it is to stop short of the entire re-organization of secondary education.

The Charity Commissioners have, during the past month, published two schemes for the reconstruction of old foundations, which are typical of the two extreme classes of cases with which the Commissioners consider themselves called on to interfere. The first might be labelled "safe," the second "dangerous." The illustration of the first kind is the scheme

for administering Sir John Cass's Charity. The school founded and endowed by Sir John Cass in his native parish of St. Botolph, Aldgate, was an elementary school for the poor, dating from the reign of Queen Anne. It has neither grown nor changed with the times, although its endowment has amply received the usual "unearned increment." Educational reformers have envied its wealth, but it has never been the subject of a Parliamentary inquiry. The Endowed Schools Commissioners seemed to have overlooked it, and those who have carried out the City Parochial Charities Act have left it untouched. The revenues of the Charity, which in the days of the founder amounted to about £400 a year, have been increasing in a regular progression. The annual income, which stood at £2,300 in 1847, had risen to £3,300 in 1854, and £5,300 in 1868, and is now £6,500. It is almost impossible to say what the annual income will be when existing leases have expired, but £30,000 a year is said to be a fair estimate. Sir John Cass's Charity is one which calls for readjustment, as it is evidently absurd to restrict such a growing endowment to an elementary school. With the experience which the Commissioners have had in remodelling other foundations, and the formulated principles which are now accepted as the basis for such operations, this scheme should be, as we have described it, a "safe" one. And there is no reason whatever to suppose the Commissioners have erred in its construction.

But the proposed new scheme for St. Paul's School, given in another column, is a very different matter. The school was removed and remodelled as recently as 1884. It has raised itself since to a high rank among the higher public schools, and it seems difficult to find sufficient reason for a further interference at the present moment. It may be that there are funds in Dean Colet's Charity unappropriated, and we know that the Commissioners are striving everywhere to bridge over the gap between the elementary schools and these higher public schools. Granted that there are funds to spare, there can be little objection to their being applied to establish such intermediate schools. It would be dangerous folly, however, to impoverish the existing school, or to put in jeopardy its recent remarkable success, by novel experiments affecting its constitution. Hitherto the competitions for admission have been made real, and the efforts of private trainers have been necessarily enlisted to bring candidates up to the point of success. Hence the process by which the character of the school has been established is threefold. First, there has been a careful selection of the best amongst the candidates. Secondly, the careful preparation of candidates, before their admission, has been encouraged. Thirdly, the result of these measures has led to the gaining of University distinctions by the school, and the improvement of its reputation has made it attractive to boys of ability seeking a school renowned for good hard work. These causes and consequences act and react on one another. To rob the school of its freedom of selection is to produce a deterioration in the quality of the supply of pupils. But to the extent of one-third of the one hundred and fifty-three free scholars, this is what the scheme does: The proposed scheme invidiously restricts, for the first time in the history of the school, fifty-one scholarships to a certain class in a limited area, who are now at full liberty to obtain them on the same terms as other boys. To admit the fifty-one, a lower standard

and a lower age of admission will have to be adopted, and the preliminary coaching will have to be dispensed with. The time is not long since passed in which we had to fight against monopolies in education, but is it possible that, having secured the opening of the one hundred and fifty-three places to any candidates who are qualified to win them, we must still keep moving, even by retrogression? The establishment of the monopoly at the other end of the scale seems to indicate that the framers of the new scheme think so. There is, however, yet time for the removal of the novel, dangerous, and objectionable clause.

IN all work done with an end in view, the efficiency of the skill employed does not depend solely on a knowledge of the individual case or thing to be dealt with, nor solely on a knowledge of general principles, but upon both; and the essence of the skill consists in bringing these two, the general knowledge and the particular knowledge, into true and harmonious connexion, and producing as the result right action and a sound piece of work. And this is as true in education as in anything else. It is not enough to know the individual pupil well, nor is it enough to know only the general laws of mental action; we must know both, and bring the general laws into an harmonious bearing on the individual case if we wish to deal with that case intelligently and soundly. Nor shall we be able to do this effectively until we have had much thoughtful and well-directed practice in applying generals to particulars. It is intelligent thoughtful practice which makes perfect, and not ignorant haphazard repetition of an action. We shall not be able to understand a particular case aright without a knowledge of general laws or principles; for what do we mean by "general principles" but the *explanation of particulars*—a purified and corrected explanation arrived at by carefully and clear-sightedly examining many particulars, and separating what is permanent and regular from what is merely accidental, and then by experiment searching still further into the relations of cause and effect? At the same time it must be quite evident that until we know all the facts of a particular case it is mere folly to suppose that we can explain it and deal with it properly.

This seems so manifest that the statement of it amounts almost to commonplace. And yet how often do we not hear it said that every teacher must have his own method of teaching. No doubt his personal peculiarities and his manner of working are factors in the problem which cannot be ignored; but they are not the most important factors, and as often as not are hindrances and not helps. Surely the personal characteristics of the *learner* and the general principles of mental growth and activity are far more important factors, and should have far more weight when method is being considered?—though, of course, a healthy vigorous personality in the teacher is always of the highest value for its moral and stimulative influence, an influence, however, rather indirect than direct.

But perhaps we shall be told that all this refers only to the training side of education, and has nothing to do with instruction, or producing in the learner a knowledge of certain subjects. Indeed it is commonly enough affirmed that every subject must have its own method. This is truer than the maxim we have just been considering; but it is

only true within narrow limits. It is true that the tools which a workman has to use, and the material he employs to effect his aim, must largely influence his mode of work. But after all the teacher's aim is to produce in the learner knowledge of some kind, and his method must therefore be in harmony with the laws which govern the acquirement of knowledge, and must be suitable to the mental equipment and mental power of the learner. If he thinks of his subject only, he is more than likely to fail. Of course he must know his subject thoroughly, that he may use it freely and soundly; but he must know much more than this if he is to plant the knowledge of it in the mind of another. He must not ignore the mind of that other nor the general principles of method in instruction.

Since we are dealing with educational heresies, we may as well mention another which we have only touched upon in passing. We refer to the meaning attached to the term "experience." As it is very commonly employed it seems to cover no more than the fact that one has been present during a certain period while something has been going on, though one does not know what to observe, or how to observe, or how to get a meaning from the facts which present themselves. For instance, a raw youth is taken from the University—raw as a teacher, we mean—and is pitchforked into a classroom, where he flounders about unhappily for a term. He is then said to have "gained experience." If the term was never used to mean more than this, we should have nothing to complain about. Such things do happen, and the process may as well have a name—only we must not suppose that this is experience in the Baconian sense, or that it will produce a trained teacher. When Bacon bids us seek to gain knowledge by experience, he means deliberate, enlightened, painstaking observation and experiment; not "a vague and arbitrary experience," not "a mere groping in the dark" which "rather astonishes than instructs," but an experience which "proceeds regularly and uninterruptedly by a determined rule," an experience free from all ill-conceived suppositions and hasty conclusions, and undertaken for the exclusive purpose of gaining a clear distinct knowledge of facts and of their relations to one another. We must come to our task with a seeing eye and an understanding mind, with some notion of its general character and with some general knowledge of the more important facts so far really known about it (which facts we shall have to investigate)—or we may begin without this general knowledge, and in that case of course the time when our true experience begins will be postponed. In any case "experience" does not mean mere groping in the dark without knowledge of direction and without conscious intelligent purpose; and it does include experiment, or the careful clear-sighted application to practice of principles more or less general, or in process of generalization. We confess that we very much prefer Bacon's use of the word, as well as his view as to what kind of experience is necessary for the production of knowledge and power.

REVIEWS, NOTICES, &c.

Froebel and Education by Self-Activity. By H. Courthope Bowen, M.A. (William Heinemann. 5s.)

This is a book which it does one good to read. It exalts and expands the teacher's calling, showing that it affords scope for profound thought, the highest zeal, and complete devotion. One feels, after reading it, that the operations and results of education

are not so chaotic and fortuitous as they appear, that aims and theories of education are not necessarily as confused and conflicting as we often find them, and practice in education need not be so wanting in system and stability. Here we find accepted principles so treated that they appear in complete harmony, and so applied that their utility is at once apparent.

The title of the work is suggestive. It is not "Froebel and the Kindergarten"; it is "Froebel and Education by Self-Activity." This is as Froebel himself would have had it. To most teachers in England he is known only as the inventor of an ingenious method of infant training and instruction, but he himself thought he was inaugurating a new theory for the harmonious development of the whole nature from infancy to manhood. He sought to lay down the broad principles according to which all instruction and all natural faculties might best be brought to serve "the glory of God and good of man's estate." He looked upon his Kindergarten work as the portal only to the vast harmonious edifice he sought to rear. It was his latest effort, for he had been driven to the conclusion that "the educator can do nothing real and permanent until the faculties have been prepared in early childhood for true human culture." Of his scheme the Kindergarten part has received almost exclusive attention, and too commonly this attention has been fixed on the form of this part rather than on the principles it involves. Now, however, the portal is safe. Even the Education Department is sound on the Kindergarten, as is seen by Circular 322 to Her Majesty's Inspectors, issued during the past month. This circular runs as follows:—

"You will have observed that in the Education Code of 1892, teachers holding either the elementary or advanced certificate of the National Froebel Union are allowed to rank as assistant teachers in infant schools under inspection. And you will doubtless have rightly inferred from this concession that the Department are desirous of giving further encouragement to the employment of Kindergarten methods.

"Two leading principles should be regarded as a sound basis for the education of early childhood: (1) the recognition of the child's spontaneous activity, and the stimulation of this activity in certain well-defined directions by the teachers; (2) the harmonious and complete development of the whole of a child's faculties. The teacher should pay especial regard to the love of movement, which can alone secure healthy physical conditions; to the observant use of the organs of sense, especially those of sight and touch; and to that eager desire of questioning which intelligent children exhibit. All these should be encouraged under due limitations, and should be developed simultaneously, so that each stage of development may be complete in itself.

"It has been strongly urged that sufficient attention has not been paid in the past to these principles; indeed, it is often found that the Kindergarten occupations are treated as mere toys, or amusing pastimes, because they are attractive for children, and the intellectual character of the "Gifts of Froebel" is disregarded, whereas the main object of these lessons is to stimulate intelligent individual effort.

"You should direct the attention of teachers to the chief consideration which underlies true methods of infant teaching, viz., the association of one lesson with another through some one leading idea or ideas. The reading lessons, occupations, and object-lessons may all be usefully combined for one purpose—e.g., if the teacher wishes to impress on her class some knowledge of a domestic animal, she may usefully combine the object-lesson for general study of its structure; the reading lesson for a knowledge of its habits and character; some occupation, such as pricking the outline, to impress an exact knowledge of its form; a song or simple story bearing on its association with human life; so that familiarity with animals, especially with domestic animals, and a kind treatment of them, may be fostered.

"On the other hand, you should caution teachers against the mere repetition of the same exercises and lessons; the progressive character of the whole scheme of instruction should be constantly kept in view; and each exercise should lead up to something beyond itself.

"It is the experience of many good teachers that by the adoption of such methods it is found to be unnecessary before the sixth year is passed to employ books for reading, except occasionally for a change of occupation, or perform any exercise in writing, except the elements of letters, or to do any formal arithmetic work on slates."

It seems, therefore, that the "portal is safe," and it is time to look beyond it and survey Froebel's views of education as a whole. The real value of the Kindergarten will appear only when this survey is intelligently made. Now, Mr. Bowen's book comes opportunely to assist us in this survey.

The first two chapters are, of course, biographical, treating of Froebel's life and education, and his experience as an educational reformer. The great merit of these chapters, it seems to me, is that they bring Froebel very near to us. Comenius, and even Pestalozzi, must necessarily appear in perspective; Froebel is so near us that some of us might have spoken to him. Indeed, there are teachers still living who conversed with him in his

latter days, and who hold for him a reverential recollection. His "child-festival" at Altenstein, in 1850, is still remembered, as is also that on his seventieth birthday, very touchingly described by Mr. Bowen. Some men have died like warriors, and have been followed to their graves by comrades in martial array. Friedrich Froebel died as a great teacher, and on that summer day in June, 1852, many friends, more teachers, and still more children, gave mournful expression to their loving esteem for the good old man, and his fellow-worker, Middendorff, who so soon followed him to the grave, spoke to those present in glowing and hopeful words of his life and work.

Very clear statements and explanations of Froebel's chief principles follow the biographical chapters. There is little to criticise adversely, but occasionally one feels that these principles might have been followed rather further, and applied to the conditions and difficulties surrounding English teachers. This is to some extent done in the account of the *Mutter- und Kose-Lieder*, and Mr. Bowen admits that "we require what is English or what has become such." He goes only a little way, however, to show how to adapt what is English to the methods of Froebel. He throws aside "Who killed Cock Robin?" as "a story of violence and a grotesque funeral"—not Froebelian. What about "Sing a song of Sixpence"? Miss Shirreff I think it was who described this, which to many is simply a jingle, as "really poetic, and a pretty finger exercise." Songs which have delighted the child-world in our own country, ought not to be lightly or hastily laid aside; and English students of Froebel's ideas and methods should consider how far these can find illustrations in the old nursery songs of his own land. Many such songs, being of the nature of myths, can be traced in every national literature; but others are hard to popularize beyond the land and language of their birth. Still, Mr. Bowen very wisely gives nearly thirty pages to these *Mother and Baby Songs*, and is justified by his quotation from Froebel's preface:—"I have here laid down the fundamental ideas of my plan of education. This book is the starting-point for an education in real harmony with Nature, for it shows how the germs of human tendencies should be nourished and supported if they are to develop healthily and completely."

In the later chapters Mr. Bowen discusses the bearing of Froebel's principles on technical instruction, and draws an interesting comparison and contrast between Froebel and Pestalozzi. The limits of space forbid a further account of this carefully written book. An appendix contains lists of Froebel's writings and of Froebelian literature, and a very full and useful index is added.

The Teacher's Manual of Lessons on Domestic Economy. By H. Major, B.A., B.Sc. (Cr. 8vo, pp. viii., 436; price 4s. 6d. Blackie & Son.)—This book is specially designed to meet the new Government requirements in teaching domestic economy as a class subject. It is carefully graded, both in matter and in mode of treatment, for the different standards. The general plan adopted by the author is to give, first, a large number of facts relating to the particular portion of his subject, tersely and clearly stated—these are to serve as information for the teacher; then these facts are worked up into a specimen lesson to show how they may be adapted to teaching purposes; and, lastly, we have notes of the lessons, which may be conveniently written on the blackboard as summaries for the children. In the more advanced stages the *specimen lessons* are dropped, and the *notes* become much fuller, and are meant only for the teacher, and not for the pupils. It is not necessary for us to criticise the somewhat extraordinary collection of topics and material which are supposed to come under the head of "Domestic Economy," and which make steady continuity and true connectedness almost impossible. Mr. Major has to take the Code as he finds it. And considering all things, he has done his work exceedingly well—though here and there he shows that he does not sufficiently realize the difference between an exercise in observation and reasoning and one in constructive imagination. Mr. Major is evidently an experienced and skilful teacher; and his lessons, if given by himself, would be excellent. But they will be much less valuable when given by other teachers, unless these teachers think through the lessons for themselves and honestly provide all the material recommended, and more too. A second-hand object-lesson sparingly supplied with objects is mere waste of time, and often intellectually injurious. If the objects cannot be supplied in sufficient quantities the lesson had better be omitted, and the information given otherwise; nor is a lesson ever worth having when it is given by one who has only crammed up a little information on the subject, and does not understand even the

little he has got together. These are some of the points which have occurred to us while looking through the pages of Mr. Major's well-informed and very suggestive book. We should advise teachers to get it and study it carefully; but not to think for a moment of merely reproducing its lessons—failure or waste of time would certainly be the result. Nor should they restrict themselves to the precise information the book gives—though Mr. Major both selects and expounds his information excellently. Differences in the circumstances of the children will render necessary differences in the information and material used, and so, also, will variations in the mode of giving the lessons. The book should be studied as a collection of examples of how to teach, and not merely as something to save the teacher time and trouble.

Elementary Physiology for Students. By Dr. A. T. Schofield. (Cassell.)—This book, so far at least as the printing goes, is most emphatically up to date; the eye is jerked from one type to another with a frequency that is absolutely distressing; inset titles and clarendon type proclaim the subject of each paragraph long before the reader reaches it, and there is an abundance of illustrations that contrast very favourably with the text-books of twenty years ago. The illustration is, indeed, even redundant; Figure 147 covers 146, and 171 and 190 are simply feebler renderings of 172 and 187 respectively. Then to what educational end do the figures of karyo-kinesis, on pp. 10 and 11, minister? The treatment is not widely dissimilar to that in the innumerable other works of this class: definition of subject to begin with, and of *biology*, *morphology*, and *embryology*; definition (!) of a cell—"The Cell forms the basis, not only of physiology, but of biology, for it is the *embryological*, *morphological*, as well as *physiological unit*. This fact was first established by Schwann"—very clear this, and of the greatest educational value (!). Then comes the usual chemical information, as that "each molecule of protoplasm is composed of a solid and of three gases," and so on. While teachers will persist in plunging into physiology without any sound preliminary training in physical and chemical science on the part of their pupils, or any scientific training at all on their own part, there will, we suppose, be no end to the making of books such as this. But they are not educational works. In some places Dr. Schofield has evidently been heedless with his writing; he makes the startling announcement in one place that the lowest vertebrata (amphibia) have no brains, apparently meaning *amphioxus*. In one part, at least, he is deliberately misleading; he introduces a theological division of the human being, and neatly packs away *spirit* in the cerebrum, *soul* in the thalamencephalon and mid-brain, and *body* in the medulla oblongata. Doubtless many a good student will carefully and unquestioningly commit to memory the statement that "the lower brain is the seat of the body." We wish we could praise Dr. Schofield a little; there are indications here and there that he means well, but the first duty of a reviewer is to his readers. Two hundred and twenty-seven figures, two coloured plates, excellent and extremely variegated typography, will not redeem a total want of explicitness. The illustrations may be of service for class-teaching, in the place of diagrams, in some cases.

The French Revolution. By Charles Edward Mallet. (John Murray.)—This is one of the University Extension Manuals, and it must be judged in connexion with the purpose for which it has been written. University Extension lectures are the modern representatives or successors of the popular lectures that used to be given half-a-century ago in Mechanics' and Working-men's Institutes, but they are advances on their forerunners, for they assume that the thirst for knowledge has spread upwards beyond the class of artizans and clerks, and that in the natural progress of things a better general education is now usually possessed by the persons who attend the lectures. Hence while a popular and somewhat discursive treatment of the subjects is still the order of the day, something more in the nature of real study has to be added. Common to the older and newer form is the general discussion of causes and consequences, of facts, suggestions, and ideas, but the special characteristics of the new are the closer adherence to authority and the deeper and more scholarly examination of the evidences of truth. The author's notes, and his care in marshalling facts and authorities, make the work a useful text-book. The author has certainly well succeeded in one of his aims, namely, to make clear to others—

"the real character and aims of the men who grasped the supreme power in 1793-94, who held it with such a combination of energy and folly, of heroism and crime, and who proceeded through anarchy and terror to experiment how social misery could be extinguished and universal felicity attained by drastic philosophic remedies applied by despots

and enforced by death. History offers no problem of more surpassing interest, and none more perplexing or obscure."

His conclusion is also amply justified:—

"It may be that some of the experiments of the Terror are even now destined to awaken the growing sympathy and interest of the world; and those experiments will not have been made in vain if they bring home the inexorable maxim that no country can be regenerated by bad men, and that noble impulses are waste and fruitless without the reasoned sense of what is feasible and just, which nations honour and by which they live."

Text-Book of Biology. Vol. I. By H. G. Wells. (W. B. Clive & Co.)—Rightly or wrongly, biology has been looked upon by the majority of students for the London University examinations as an exceptionally difficult subject, and one in which the text-books in use are not, from their point of view, entirely satisfactory. The comprehensive laboratory guides, written by various eminent professors, can only be used to full advantage by those who have a considerable amount of time at their disposal; and, while invaluable as a foundation for subsequent biological work, they remain laboratory guides and not general text-books. There has been, in fact, for several years, an opportunity for some teacher of practical experience to put together in a small space the main structural outlines of the animals required by the syllabus, and without sacrificing accuracy of detail as observed in dissection, to show the real value and importance of the facts noted, and their place in a systematic study of animal life. Mr. Wells has seen his opportunity, and his text-book of Vertebrate Biology, just published by Messrs. Clive & Co., goes a long way towards meeting the want. His practical experience shows itself on every page; his descriptions are short, lucid, and to the point. Apart from the text and its arrangement, in which the strength of the book lies, the most conspicuous feature is the large number of roughly sketched outlines used as illustrations. Considering the price of the book, and that there are twenty-five of these sheets of sketches, it is not surprising that they are somewhat rough and the lettering often indistinct. For practical purposes, however, we believe this is not a great disadvantage. Without overloading his pages, and without distracting attention from things to be seen and handled, he has found room for the requisite amount of elementary physiology. In dealing with more complex studies, such as the skull, the brain, or the nephridial systems, the detailed description of one type has been subordinated to the sketching out of a simple plan. As in all books of this kind, prolonged use may bring to light scattered faults; but, on the whole, it seems singularly free from serious mistakes. Its value lies in the judicious condensation of a large amount of material, the scientific treatment of subjects, and the discrimination between the essential and the unimportant. We can confidently recommend it to the class of students for whom it is designed.

Excursions in Greece. By Charles Diehl: translated by Emma R. Perkins. (Octavo, pp. xxiv., 408; price 7s. 6d. H. Grevel & Co.)—This book of Professor Diehl's will be found of considerable interest and value by all who are beginning the study of Greek archæology. The "Excursions" are to recently explored sites of classical interest; and the author's aim is to give a popular account—with references for those who wish to go further into the matter—of the results of excavations at the following places:—Mycenæ (1876–88), Tiryns (1884–5), Dodona (1876), Athens (1882–9), Delos (1873–88), the Temple of Apollo Ptoios (1884–8), Olympia (1875–81), Eleusis (1882–9), Epidauros (1881–7), Tanagra (1870–89). The mere list is quite enough to make one's mouth water. When we add that the book is well written, well translated, and well supplied with plans and illustrations, and has also a very business-like and helpful "Introduction" by Professor R. S. Poole, our readers will see that it will be a decided boon to classical students. Professor Diehl knows his subject and has studied it on the spot, having been a member of the French schools of Rome and Athens (as well as being Professor of the University of Nancy); and, as Dr. Poole tells us and as the reader will soon learn for himself, the chapters are marked by the excellent French qualities of measure, form, and elimination. Professor Diehl never lets himself run away into side issues, which would be out of place in a popular treatise of this kind. We cannot pretend to decide which section of the book is of greatest intrinsic value; but, as far as interest is concerned, there are none better than those which give accounts of the excavations at Mycenæ, Athens, and Olympia—the first of which contains a capital sketch of Dr. Schliemann's career, and the last an excellent description of the great games, such as was

not possible before the site itself had been carefully examined. It is hard, however, to be certain—perhaps, after all, the description of the terra-cotta at Tanagra is better still. The book is one to be enjoyed; and its contents will help to make many a point of classical literature and history far more real for the student than any number of volumes of mere hearsay and supposition and bookish ingenuity, and will give a meaning to his archæological museum, which is not, we think, to be got in any other treatise at once so handy, so interesting, and so cheap. Whether it was necessary to put the book into an English form we are rather inclined to doubt; but if it was to be Englished, the work could scarcely have been done better than it has been done by the Headmistress of the Girls' Grammar School at Thetford.

Ethics: an Introductory Manual for the Use of University Students. By F. Ryland, M.A. (Cr. 8vo, pp. 220, price 3s. 6d.; Bell & Sons.)—This small text-book is professedly intended for those who are working for the degrees of the University of London, and, in the main, follows the lines thus indicated. But Mr. Ryland claims not to have followed those lines slavishly, and, where it has seemed to him wise, and likely to add considerably to the interest of his subjects, to have introduced something outside what the University demands. Small though the book is, and rather avoiding than striving after originality, it is, nevertheless, a very good piece of work. It covers its subject well; its topics are selected with sound judgment; and it expounds these topics very clearly and brightly. It is plainly written by one who is not only well-informed, but also well-read. Very useful, too, are the lists given in Appendix A (chapter by chapter) of authorities and other text-books to which the student may refer if he wishes for further information. We recommend the little book very heartily. Beginners in ethics will not find one better suited to their needs, nor one more likely to give them an abiding interest in the subject. And further, in spite of its brevity, they will not find that they have acquired any serious prejudice or one-sided idea which will have to be got rid of hereafter.

OUR LIBRARY TABLE.

Stories for the Schoolroom. Book V. By J. H. Yoxall. (Price 1s. 6d. Blackie & Son.)—This is one of the parts of a capital new series of school readers, made up of stories selected from popular authors, adapted and edited for class use by Mr. Yoxall. In this case the selections are from "Little Women," by Miss Alcott; "Monte Cristo"; "A Rough Shaking," by George MacDonald; Cooper's "The Pathfinder"; Browning's "The Pied Piper," &c.—in short, a very excellent dish to set before any child, except, perhaps, in the case of "The Pathfinder," which is a little too "bluggy." A caution, however, we think is needed. If a school-reader is intended for teaching children to read aloud and pronounce their own language well, a too interesting story is very liable to defeat our aim; for it draws away the attention from the elocution, and holds it to the succession of incidents. We want to hurry on and not to stop and pronounce. On the other hand, a thoroughly dull book is not worth reading well. Mr. Yoxall seems, to us, to have hit the right mean in "Little Women," but to have missed it in "The Pathfinder."

Cassell's "Modern School" Series.—Things New and Old; or, Stories from English History. By H. O. Arnold-Forster, M.P. Standards I. and II., each 9d. (Cassell & Co.)—The brightness and clearness of Mr. Arnold-Forster's style is well known to us all. He is nothing if not "realistic" and emphatic, and has no liking for shadows and half-lights. Teachers, of course, cannot but be amused at his lecturing us as he does, and setting us all right; but, after all, he has often something to say, and he makes a good point when he insists on the value of keeping the past and the present as closely connected as may be when introducing the young to the study of history. In more than one instance, however, he fails to see that things are not "present" (in his sense) for a child unless they have come, or can be made to come, within the child's own knowledge and experience. They are not part of the child's present simply because they happen to be still in existence. This caution given, we have nothing but praise for the little books. There is not a dull page in either; and the selection of stories is excellent. We shall look for the volumes which are to follow with decided interest.

Le Chat Botté, and other Fairy Tales. By L. B. Bernhart, B.-ès-L. (Cr. 8vo, pp. 96; price 1s. Mr. A. G. Dawson.)—We almost think it a pity that any one should put "B.-ès-L." after his name, just as if it were in any way equivalent to "B.A." It is likely to create a prejudice. The book before us is described as "a French Reading Book for Beginners: with complete vocabulary and examination questions." It fulfils its purpose very satisfactorily. Its eight stories are told simply and pleasantly, and the author scrupulously avoids idiomatic difficulties as much as possible. We wish he had stuck more closely to his Perrault, and the naïve homely ways of putting things, in which that old writer has hardly a rival. We think Mr. Bernhart tries a little too much now and then to moralise and explain the stories in his way of telling them; and in his

effort to be simple his language at times becomes almost Anglo-French. Nevertheless we like his little book, and strongly advise those who have to teach French to beginners to get it and make trial of it for themselves. We are sure they will not be disappointed.

University Correspondence College Tutorial Series.—The Tutorial Latin Grammar. By B. J. Hayes, M.A., and W. F. Masom, M.A. (Cr. 8vo, pp. 304; price 3s. 6d. (W. B. Clive & Co.))—The general characteristics of this series are well known to our readers. The books are intended to help those who are working for the degrees of the University of London; and they evidently do this with considerable success. The examinations aimed at in the present case are Matriculation and Intermediate Arts. The point of view throughout the book, we are told, is that of translation from Latin, and forms and usages peculiar to early or late writers have been scrupulously excluded; while care has been taken not to obscure the main principles of syntax, by crowding the pages with constructions of rare occurrence.

The Queen's English (?) Up to Date. By Anglophil. (Cr. 8vo, pp. xii., 192; price 2s. The Literary Revision and Translation Office.)—The note of interrogation is the author's, not ours; but we thoroughly approve of its insertion. The book is described as "an exposition of the prevailing grammatical errors of the day, with numerous examples." Many of the "errors" we have never seen before; many things are set down as errors which are not errors at all; and the expositions are more often than not of no value. Those, however, who are fond of setting in examination papers sentences which may or may not need correction, will find in this book a large store of such ready to hand.

A Term's Lessons on Air. By A. E. Hawkins, B.Sc. (Percival & Co.)—As the title implies, the twenty-three lessons in this book are intended to be a term's science work for junior forms, supposing two hours to be given each week. The apparatus used is of simple description, that boys may be induced to repeat the experiments at home. The lessons are conducted in a conversational manner, and close with a few questions on the work that has been gone through. Mr. Hawkins is to be congratulated on the simplicity with which he presents the subject.

The Intuitive French Reader. By Otto Siepmann. (Cr. 8vo, pp. xvi., 407. Hachette & Co.)—This book is based, we are told, on Dr. Hubert Wingerath's "Choix de Lectures Françaises," which has been successful in Alsace-Lorraine and elsewhere. It is intended for preparatory schools and the lower forms of public schools. It is divided into three parts, the first of which gives us specimens of the so-called "intuitive" method; the second, selections of prose, and the third, short pieces of poetry. The vocabularies occupy about half the book. The following is a specimen of the "intuitive" method:—"L'Ecole. Je suis un enfant. Je suis à l'école. Je suis un écolier ou élève. Tu es aussi un enfant. Tu es aussi à l'école. Tu es aussi un écolier ou élève. Un garçon est un écolier ou élève. Il est à l'école"—and so on through the present tense of *être*, and then that of *avoir*. There is nothing intuitive in this. The pupil is simply set to read little sentences about himself and his surroundings, school, home, garden, &c. We are afraid Mr. Siepmann will be disappointed and will not find that children think this kind of reading agreeable. To talk with them about what is around them and to help them to make little sentences about the things they see and know is another matter. The prose selections of Part II. are made with taste and good judgment; but much of the poetry of Part III. seems to us more suitable in style for adults than young children. It contains a good deal of La Fontaine, whose language is, as a rule, very hard for beginners. Still the pieces in themselves are good, and the book will be found useful.

Souvestre: Un Philosophe sous les Toits. Edited by H. W. Eve, M.A. (Cambridge University Press.)—Few books are better suited for initiating the young student into continuous French reading than this charming chronicle of a simple life, with its optimistic philosophy, its touching narrative, its bright conversation, and occasional poetic outbursts. The editor has supplied a body of useful notes, in which, by means of frequent quotations of parallel passages, he has sought not only to elucidate the text, but also to cultivate the literary taste of the student. It may perhaps be questioned whether the average schoolboy can be expected to take much interest in the parallels adduced from Greek and Latin authors, but the more advanced student will doubtless find in them a welcome relief from the dryness of notes bearing merely upon questions of grammar and idiom.

Schiller: Maria Stuart. Edited by Karl Breul, M.A., Ph.D. (Cambridge University Press.)—Schiller's *Maria Stuart* presents one great advantage, by which it is recommended for use in English schools—it deals with a story the details of which are more or less familiar to every English boy, so that interest in the development of the plot is awakened from the beginning, and the mind, freed from the effort to familiarize itself with a novel subject, can be concentrated more completely upon the mere difficulties of language. The minute analysis of the plot, scene by scene, which is appended, might also be turned to good account; the student who works his way through the scene line by line, would, if already acquainted with the connected argument, be better able to follow the drift of what he reads piecemeal. In the notes the editor makes good use of the valuable etymological principle in order to elucidate the meanings of words and fix them in the student's memory.

Gill's "Regina" Historical Readers. No. VII. The Hanoverian Period, 1714-1887. (Cr. 8vo, pp. 224; price 1s. 4d. George Gill & Sons.)—This is the concluding part of a satisfactory series of historical readers.

It is very fully illustrated and neatly bound, and quite equal in merit to its predecessors.

History Readers. Standard VI. The Stuart Period. (Cr. 8vo, pp. 250; price 1s. 6d. Macmillan.)—As we have already spoken of other volumes of this capital series of history-readers, we need only say here that the volume before us is well-printed on good paper, and well supplied with excellent illustrations; while the chapters are clearly, simply, and interestingly written.

Remarkable Comets: a Brief Survey of the most Interesting Facts in the History of Cometary Astronomy. By W. T. Lynn, B.A., F.R.A.S. (Edward Stanford.)—The scope of this little treatise is almost purely historical, it being intended as simply a handy work of reference to those comets which may be considered remarkable, either for their brilliant appearance, their periodic returns, or for any other circumstances respecting them. Mr. Lynn gives in the forty pages of his little book nothing that the student of astronomy ought not to know, and many facts of which all should be cognizant.

The Classical Translation Library.—The Alcestis of Euripides; The Odes of Horace, Books I. and II.; Homer's Iliad, Book XXII. Texts, with Translations by R. W. Reynolds, B.A. (Hodder & Stoughton.)—These are neat little volumes, containing opposite the text a literal and satisfactory translation. We can scarcely conceive for what class of students they are intended.

Elementary Classics.—Xenophon's Anabasis. Book VI. By the Rev. G. H. Nall, M.A. (Macmillan.)—This volume has been prepared for somewhat more advanced students than those for whom the majority of the editions of this series were intended. In consequence, to thirty pages of text we have one hundred and fifty pages of additional matter. The introduction is lengthy, and contains much that would be unsuited for very young pupils, but a great deal of help is given in the notes and vocabulary. The introductory notes on the army, which are abundantly illustrated, and the illustrations and armour, will be interesting and instructive to the youngest boy.

(1) *Ovid: Tristia, Book I.* Edited by A. H. Allcroft, M.A., and F. P. Shipham, M.A. (2) *Ovid: Tristia, Book III.* Edited by A. H. Allcroft, M.A., and F. G. Plaistowe, M.A. (W. B. Clive & Co.)—A short introduction does duty for each of these editions. The notes and indexes seem to leave nothing unexplained.

Primer of Horticulture. By J. Wright, F.R.H.S. (Macmillan.)—This is a course of ten lectures delivered in rural and semi-rural districts of Surrey for the Technical Education Committee of the Council of that county. A systematic study of the subject will enable a large number of workers on the land to obtain knowledge that will lead to a greater supply of useful produce from their plots, and render the surroundings of their homes more generally interesting and attractive.

Dampier's Voyage Round the World. With Introduction and Notes by Robert Steele. (Percival & Co.)—This is one of the English Classics for Schools, and is an excellent addition to the series. Dampier's book is valuable for many reasons. Writing for the general public, his description tells them more of an animal than they would learn from the scientific accounts of our days. The style is simple and lively, like Defoe at his best. But, more than all, we learn of what sort the men were who made England great.

An Introduction to Latin Prose Composition. By Maurice C. Hime, M.A., LL.D. (Simpkin, Marshall, & Co.)—This *Introduction* is designed for the upper-junior and lower-middle grade pupils in Irish intermediate schools, and the pupil who grasps all the book contains will be on the fair way to becoming a sound Latin scholar. It consists of five chapters: the first three are on the principal rules of syntax, the signs of the cases, and on the order of words. The fourth contains fifty exercises, being literal translations, with notes, from Nepos, Caesar, Cicero, Livy; while the fifth is an exercise specially composed to test the pupil's knowledge of all the rules of syntax.

As You Like It. Edited, with Introduction and Notes, Arranged and Classified, by Thomas Page. (Moffatt & Paige.)—Shakespeare takes up sixty of the one hundred and sixty pages in this book. In the hundred for which Mr. Page is responsible, there is dealt with almost every conceivable topic that can by any pretence be tacked on to the play. Thus we have a tabular list of the chief events in the life of Shakespeare, a list of his works, an introduction to *As You Like It*, a chapter on the date and early editions of the play, another on the source of the plot. There is also a sketch of the plot, sketches of the principal characters, literary notes, a list of notable passages, of proverbial expressions and familiar quotations—all preceding the text, which is followed by miscellaneous notes, notes on the language of the play, etymological notes, an index of proper names, examples of paraphrasing, an example of analysis of sentences, closing with typical questions selected from various examination papers.

Corneille: Polyeucte. Edited by E. G. W. Braunholz, M.A., Ph.D. (Cambridge University Press.)—In this edition the student will find assembled sufficient material for an intelligent study of Corneille's drama. The introduction comprises a sketch of the author's life, with a brief résumé of the leading features of his style and choice of plots, and a short account of French prosody as exemplified in the *Alexandrine*. To the play is prefixed Corneille's "Abrégé du Martyre de Saint Polyeucte," and his "Examen de Polyeucte." In the notes, so far as we have seen, the editor is careful to distinguish such of the usages of Corneille's language as are not admissible in modern French.

Ponsard: Charlotte Corday. Edited by Arthur R. Ropes, M.A. (Cambridge University Press.)—The historical notes in this edition of Ponsard's *Charlotte Corday* constitute a large proportion of the whole. This, however, is scarcely a fault; grammatical notes are less needed in modern French, where there are no antiquated or obsolete forms to which special attention must be drawn, and the French of *Charlotte Corday* is, generally speaking, sufficiently straightforward as to present few difficulties calling for special remark. The historical allusions are fully explained, and a short index of proper names forms a useful appendix.

The Modern French Class Book. By Paul Turreux. (Williams & Norgate.)—In the large crop of French Grammars which the modern movement in favour of the study of living languages has brought forth it is usually difficult to find much which distinguishes one from another. The book under discussion has no claim to special distinction amongst its fellows. The earlier parts are more thorough than the later, where for example, subjunctive mood is disposed of in two pages, without exercises. The author trips once or twice in his English, as when on p. 5 he translates "excellents conseils" by "excellent advices," and on p. 64 employs the inelegant "renderable."

German Course. By J. Ulrich Ransom, B.A. (Longmans.)—The general impression gained by an inspection of this book is that it lacks elasticity of treatment. The exercises plod on in the beaten track, from the article, through the nouns, adjectives, and pronouns, and reach the regular verbs only towards the end of the book. As the verb constitutes the life and soul of the sentence, it is easy to understand how it is that the exercises abound in those odd juxtapositions and clumsy make-shifts which are characteristic of many of the older methods for the study of modern languages, and from which the author does not seem able to shake himself free even when no longer hampered by a limited choice of verbs. We should have liked to see too, even in an elementary book, some reference to the etymological relations between the two languages, which are so easily seen in the case of German and English, and at the same time so interesting and valuable as intelligent aids to the memory.

Leaves and Flowers, or Plant Studies for Young Readers. By Mary A. Spear. (Boston, U.S.A.: D. C. Heath & Co. London: Isbister & Co.)—In this work every lesson presents some fact in descriptive botany; and to illustrate these facts common leaves and flowers have been chosen. The subject is set out in short and easy sentences, calculated to stimulate thought and investigation.

Simple Stories from English History for Young Readers. (Longmans.)—The stories are both simple and short, and well suited to young readers. The whole forms an admirable introduction to history. The illustrations, when not coloured, are excellent and helpful.

A Manual of Machine Drawing and Designs. By D. A. Low, and A. W. Bevis. (Longmans.)—This is, without doubt, one of the best books of its kind. Both the authors are experienced and successful teachers, and have done their work with clearness, simplicity, and method. They provide (1) a large number of dimensioned illustrations, which will serve as good drawing examples for students, examples ranging in difficulty from the simplest machine detail to a set of triple-expansion marine engines; (2) illustrations and descriptions of a great variety of machine details; (3) many rules and tables of proportions; (4) numerous examples showing the application of the principles of mechanics to the calculation of the proportions of parts and machines. In the introduction there are brief articles on drawing appliances, and the making of working drawings, and a collection of problems in practical geometry, which are very often required in machine drawing. For the sake of reference, too, brief statements of various principles and rules of mechanics are inserted. The authors do well in insisting upon the combination of science with practice on the part of young engineers, and we feel sure that those who use the book as it is intended to be used, will be better engineers as the result of their efforts.

English Grammar. By Robert Jackson. (Percival & Co.)—This Grammar is written specially for boys and girls in secondary schools; it is accurate, clearly arranged, and sufficiently full for most pupils up to the age of sixteen years. The book will be helpful to candidates at the Oxford and Cambridge Locals and other similar examinations.

Hauff: Das Wirthshaus im Spessart. Edited by A. Schlottmann, Ph.D. and T. W. Cartmell, M.A. (Cambridge University Press.)—The popularity which Hauff's pleasing tale already enjoys in English schools can only be increased by the edition which lies before us. The notes are helpful and thorough, and the clearness of the type—a matter of no mean importance where German characters are used—leaves nothing to be desired.

(1) *La Belle au Bois Dormant.* Edited by B. Minssen, M.-ès-A. (2) *Die Wandende Glocke.* Edited by R. H. Allpress, M.A. (3) *Bilder aus der Türkei.* Edited by W. S. Lyon, M.A. (Percival & Co.)—(1) A little book well suited, both from its subject and from its simple though varied language, for use in a children's French class. A vocabulary according to sections is provided. (2) A useful text for an elementary German class. The notes are perhaps rather too advanced for the forms in which the text would be most likely to be used. (3) Pictures of social and political life in Turkey, alike in the subjects treated of and in the language somewhat too difficult for the elementary classes for which the book seems otherwise intended.

German Commercial Reader. By H. Preisinger. (Percival & Co.)—A decidedly useful reader for technical and commercial classes. The selections are judicious and varied, and are well calculated to furnish the reader with an extensive and useful vocabulary of commercial and technical terms, and with much valuable and interesting information relating to matters of trade. The different sections are devoted to extracts on commercial history and geography, on various raw products and processes of manufacture, to specimens of reports from various markets, to the exchange and money market, to book-keeping, and to specimens of commercial letters, telegrams, bills, &c. Latin characters are used throughout. Whilst there can be no doubt of the superiority of these to the German letters, it would, we think, have been advisable, so long as the latter are still very generally used in Germany, to have included at least some specimens in a book which is likely to form the only German reader in those classes in which it is used.

COLLEGE OF PRECEPTORS.

PROFESSIONAL PRELIMINARY EXAMINATION—PASS LIST.

MARCH, 1893.

THE Supplementary Examination by the College of Preceptors for Certificates recognised by the General Medical Council, the Incorporated Law Society, the Royal College of Veterinary Surgeons, the Pharmaceutical Society of Great Britain, and other bodies, was held on the 7th, 8th, and 9th of March, in London, and at four other local centres, viz., Birmingham, Bristol, Leeds, and Liverpool. The following candidates obtained certificates:—

FIRST CLASS.

Honours Division.

Tubbs, S. W.

Pass Division.

Veale, G. C.

Whitaker, L. A.

SECOND CLASS.

First Division.

Ainsworth, R. B.
Andrew, P.
Andrus, W.
Bacon, H.
Barrett, E. H.
Batchelor, H. C.
Bott, P. G. A.
Bryan-Haymes, R.
Coleridge, A. B.
Dods, A.

Douglas, K. H.
Edwards, H. H. J.
Foster, H. B.
Hare, J. H.
Harvey, J. O.
Head, F. W.
Holding, F.
Howlett, B. F.
Hunt, A. W. D.
Latham, T.

Martin, F. J. H.
Outred, C. D.
Patch, B. G.
Preedy, D. H. W.
Roberts, W. E. B.
Stratford, H. M. B.
Tatchell, P.
Umney, R.
Walker, T. M.
Worgan, T. H.

Second Division.

Bailey, W. A.
Beasley, J. H.
Blatchford, W. N.
Curl, S. W.
Driscoll, C. L.
Eastment, G. M.
Edwards, R. B.
Eldred, A. G.
Fisher, F. E.
Kelly, T. T.
Leeds, C. G. S.

Lewis, G. D.
Lowndes, D. V.
Lloyd, H. E. D.
Midwinter, A. A.
Morris, J. I. W.
Osmond, C. H.
Peck, A. G.
Phillips, J.
Richardson, W. S.
Roch, H. S.
Rose, F. A. S. C.

Smallwood, G. V.
Stevens, J. C.
Stowe, H. S.
Strover, H. W. M.
Symons, N.
Tattenhall, H. C.
Taylor, G. H.
Tims, H. J.
Warlow, F.
Winston, G. D.

Third Division.

Blake, F. J. G.
Carpenter, C.
Dalal, N. B.
Fleming, E. J.
Forbes, C. D. E.

Horsbrugh, C. B.
Jacob, W. V.
Macintosh, A. M.
Morris, P. H.
Orton, H. F. T.

Plowden, C. E. S.
Pritchett, G. W. M.
Soames, P. H.
Thwaite, C. E.
Vawdrey, P. Ll.

The following passed in subjects required to complete their qualification for Registration as Medical Students:—

Alderman, H. E.
Arnot, W. O. R.
Belilios, D. A.
Boughton, C. H.
Catterall, C. G.
Cock, S. W.
Croke, W. J.
Edwards, D. R.
Graham, E. S.

Hamerton, A. E.
Harris, A. H.
Harris, F. N.
Jessop, H.
Johnston, J. W.
Lucas, C. A.
Maturin, D. C. P.
Millard, P. E.
Nightingale, J.

Pitt, C. F.
Raines, R.
Stelfox, W. E.
Stewart, G. H.
Swabey, P. F.
Thomas, A. M.
Twigge-Molecey, G. E.
Westlake, L. L.

The following qualified for Registration as Medical Students, but did not pass in all the subjects required for a Second Class Certificate:—

Bawtree, F.
Brown, C. H. S.
Brown, J. W.

Crawford, R.
Cuming, R. I.
Hasler, F.

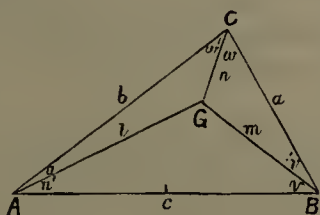
Isaac, R. J.
Lankester, R. A. R.

MATHEMATICS.

11682. (Professor HAUGHTON, F.R.S.)—Let there be three chemical atoms α, β, γ , placed at the angles of a certain triangle ABC, and let λ, μ, ν be the coefficients of attraction between β, γ ; γ, α ; α, β . If the triangle revolve in steady motion, in its own plane, round the common centre of gravity of α, β, γ , prove (1) that the species of the triangle is given by the proportions $a^3 : b^3 : c^3 = \lambda, \mu, \nu$; and find (2) the other conditions of steady motion.

Solution by the PROPOSER.

Let the accompanying figure show the general construction, where a, b, c are the sides of the triangle, l, m, n are the lines drawn from the angles to the centre of gravity; and let these lines divide the angle A into u and u' , the angle B into v and v' , and the angle C into w and w' . Each atom is attracted by the other two and must fulfil the mechanical conditions that (1) the tangential components must be equal; and (2) the radial components must equal the centrifugal force.



[The rest in Volume.]

11795. (Professor MACFARLANE.)—Prove that

$$\cos nA \cos nB = (\cos A \cos B)^n$$

$$+ \frac{n(n-1)}{1 \cdot 2} (\cos A \cos B)^{n-2} (1 - \cos^2 A - \cos^2 B + 3 \cos^2 A \cos^2 B)$$

$$+ \frac{n(n-1)(n-2)(n-3)}{1 \cdot 2 \cdot 3 \cdot 4} (\cos A \cos B)^{n-4} (1 - \cos^2 A - \cos^2 B + 3 \cos^2 A \cos^2 B)^2$$

+ &c.

Solution by the PROPOSER; Prof. ZERR, M.A.; and others.

This question requires to be corrected, since it contains a slip and depends on a principle which is not true. The expression $(1 - \cos^2 A - \cos^2 B + 3 \cos^2 A \cos^2 B)$ ought to be $1 - \cos^2 A \cos^2 B$. The principle involved appears to me to be one of fundamental importance in analysis. When corrected for the above slip, the equation follows from a law of indices which many writers hold to be one of the fundamental laws of algebra; namely that $(ab)^n = a^n b^n$. But the equation is not true; hence the law in question is true only under certain conditions.

Let α denote the axis of a great circle on a unit sphere, and A an amount of its arc; β the axis of another great circle, and B an amount of its arc. These are represented on the diagram by PQ and QR; and PR, the arc of the great circle from P to R, represents the product $\alpha^A \beta^B$.

$$\text{Now } \alpha^A = \cos A + \sin A \cdot \alpha^{i\pi},$$

$$\text{and } \beta^B = \cos B + \sin B \cdot \beta^{j\pi};$$

$$\therefore \alpha^A \beta^B = (\cos A + \sin A \cdot \alpha^{i\pi})(\cos B + \sin B \cdot \beta^{j\pi})$$

$$= (\cos A \cos B - \sin A \sin B \cos \alpha\beta)$$

$$+ \{\cos B \sin A \cdot \alpha + \cos A \sin B \cdot \beta$$

$$- \sin A \sin B \sin \alpha\beta \cdot (\alpha\beta)^{i\pi}\}.$$

[The rest in Volume.]

456. (J. H. SWALE.)—In any plane triangle ACB draw BD perpendicular to the opposite side AC, and let T be the point of contact of the inscribed circle with AC; draw TKL parallel to the line bisecting the angle B, and meeting BC, BA at K and L; then prove that (1) BK = BL = DT, and TK · TL = DB²; and (2) the same is also true for each side and its opposite angle.

455. (J. H. SWALE.)—Let CT, Ct be tangents to a circle; from T, one of the points of contact, and O, the centre of the circle, draw any parallels TL, OB to the other tangent at L, B; and to TL apply BK = BL; then prove that BK will be a tangent, and TL · TK = BD², BD being a perpendicular on CT.

Solution by J. C. ST. CLAIR.

These two questions are different forms of the same theorem. The following is a solution of Question 456.

We have

$$\text{angle } tBO = BLK = BKL = OBK;$$

$\therefore$ BK is a tangent to circle.

Produce TO to meet Ct in M, and from B draw BE parallel to CT. Join OC. Then MO : OT = MB : BL.

$$\text{Also } MC : CT = MB : BE.$$

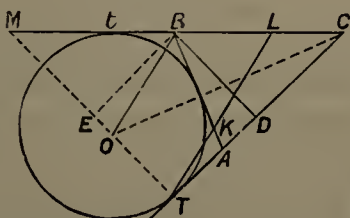
And, since CO bisects the vertical angle of triangle MCT,

$$MO : OT = MC : CT; \therefore BE = BL,$$

and a circle, centre B, and radius BL = BK, will touch TM at E.

Hence

$$TK \cdot TL = TE^2 = BD^2$$



11667. (ARCHDEACON WILSON, M.A.)—When $4n+1$ is a prime number, it is an old and well-known property of numbers that it is expressible in the form of two squares. But the proofs throw little or no light on "the reason why." Can any connexion be shown, or any explanation be given of this curious property?

Solution by MORGAN BRIERLEY.

PETER BARLOW (in his *Theory of Numbers*, 1811) gives a somewhat recon-dite, but perfectly satisfactory demonstration of the curious property here mentioned, derived from first principles, but if it can be established by induction, something of "the reason why" may be seen, as follows:—

Let $4n+1, 4n+1, 4n+1, 4n+1, 4n+1$ be an arithmetical series of odd numbers, in which the common difference of the terms is 4, and let n be successively interpreted by the digits in the natural series 0, 1, 2, 3, 4, 5, &c., whence we get 1, 5, 9, 13, 17, 21, 25, 29, &c.

[The rest in Volume.]

11833. (Professor CATALAN.) a étant une constante positive, démon-

$$\text{trer que } u \equiv \int_0^1 \frac{x^a (1+x-2x^{a+1})}{1-x^2} dx = \log \text{ nép } 2.$$

Solution by Professor SEBASTIAN SIRCOM.

$$\frac{du}{da} = \int_0^1 \frac{x^a \log x}{1-x} dx - \int_0^1 \frac{(x^2)^a \log (x^2)}{1-x^2} d(x^2) = 0, \text{ if } a \text{ is positive,}$$

since the integrals are finite and equal; hence u is independent of a , and

$$\text{putting } a = 0, \quad u = \int_0^1 \frac{1-x}{1-x^2} dx = \int_0^1 \frac{dx}{1+x} = \log_e 2.$$

$$\frac{1}{a+1} + \frac{1}{a+2} + \dots + \frac{1}{2a} = 1 - \frac{1}{2} + \frac{1}{3} - \dots - \frac{1}{2a}; \text{ whence } u = \log 2.$$

11827. (Professor DE LONGCHAMPS.)—On considère une hyperbole équilatère H et le quadrilatère formé par les tangentes aux points d'incidence des normales issues d'un même point. Démontrer que les circonférences décrites sur les diagonales du quadrilatère comme diamètres passent par le centre de H, et, en ce point, sont mutuellement tangentes.

Solutions by W. J. GREENSTREET, M.A.; W. J. DOBBS, B.A.; and others.

If the four normals through P (α, β) meet the curve in A, B, C, D, we know that A, B, C, D lie on another equilateral hyperbola, and that any one of these four points is the orthocentre of the remaining three.

Hence, if L and M be the poles of AB and CD, two lines at right angles, OL, OM are also at right angles (O is the centre of the hyperbola); and therefore the circle on MN as diameter passes through O.

[The rest in Volume.]

11675. (J. W. RUSSELL, M.A.)—A particle is placed at O on the axis of a solid homogeneous hemisphere whose centre is C, very near to C and outside the solid. Show that the difference between the attraction of the hemisphere on the particle at O and on the particle when placed at C is equal to the attraction of the completed solid sphere on the particle at O.

Solution by the PROPOSER.

If OC = z , then the attraction at O of

$$\text{hemisphere} = \int 2\pi\rho dx (1 - \cos POM)$$

$$= \int 2\pi\rho dx \left(1 - \frac{x+z}{OP}\right).$$

Hence difference of attractions

$$= \int_0^{\frac{1}{2}\pi} 2\pi\rho a \cos \theta d\theta \times \left[\frac{a \sin \theta + z}{[(a \sin \theta + z)^2 + a^2 \cos^2 \theta]^{\frac{1}{2}}} - \sin \theta \right]$$

where

$$x = a \sin \theta, \quad y = a \cos \theta$$

$$= \int_0^{\frac{1}{2}\pi} 2\pi\rho a \cos \theta d\theta \frac{(a \sin \theta + z - R \sin \theta)}{R}$$

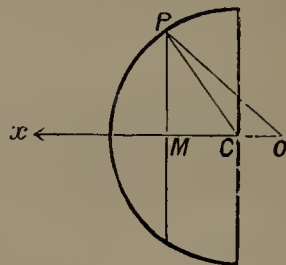
where

$$R = [(a \sin \theta + z)^2 + a^2 \cos^2 \theta]^{\frac{1}{2}}$$

$$= \int_0^{\frac{1}{2}\pi} 2\pi\rho a \cos \theta d\theta \frac{(a^2 \sin^2 \theta + 2az \sin \theta + z^2 - a^2 \sin^2 \theta - 2az \sin^3 \theta - z^2 \sin^2 \theta)}{R(a \sin \theta + z + R \sin \theta)}$$

$$= \int_0^{\frac{1}{2}\pi} 2\pi\rho a \cos \theta d\theta \frac{2z \sin \theta \cos^2 \theta}{2a \sin \theta} \text{ (to first order of } z)$$

$$= \int_0^{\frac{1}{2}\pi} z 2\pi\rho \cos^3 \theta d\theta = 2\pi\rho z \frac{2}{3} = \frac{4}{3} \pi\rho z.$$



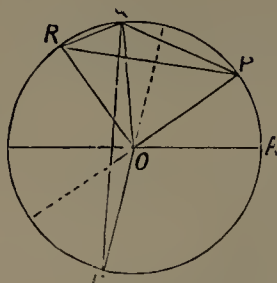
11760 and 11764. (Professors MUKHOPADHYAY and BHATTACHARYA).—Prove that the mean value (i) of the area of all the acute-angled triangles inscribed in a given circle of radius a is $3a^2/\pi$; (2) of all the obtuse-angled triangles is a^2/π ; (3) of the perimeter of all the acute-angled triangles inscribed in a given circle of radius a is $48a/\pi$; and (4) of all the obtuse-angled triangles is $16(\pi-1)a/\pi^2$.

Solution by Professor ZERR, H. W. CURJEL, M.A.; and others.

Let $OA = a$, $\angle AOR = \theta$, $\angle POA = \phi$,
 $\angle QOA = \psi$. Then
 $\frac{1}{2}a^2 [\sin(\theta - \psi) + \sin(\psi - \phi) + \sin(\phi - \theta)] = u$
 $= \text{rea}$;
 $2a [\sin \frac{1}{2}(\theta - \psi) + \sin \frac{1}{2}(\psi - \phi) + \sin \frac{1}{2}(\phi - \theta)]$
 $= p = \text{perimeter}.$

For the acute triangle, the limits of θ are π and 2π ; of ϕ , 0 and $\theta - \pi$; of ψ , $\theta - \pi$ and $\phi + \pi$.

For the obtuse triangle, the limits of θ are 0 and 2π ; of ϕ , $\theta - \pi$ and θ ; of ψ , ϕ and θ .



[The rest in Vol.]

631. (M. COLLINS, B.A.)—Required the locus of all stars that have the same precession in right ascension.

Solution by W. J. GREENSTREET, M.A.

Let P, Π be the poles of the equator and ecliptic respectively, S' the precessional displacement of S relative to P in any given time; then $\angle SPS' = \phi = \text{constant}.$

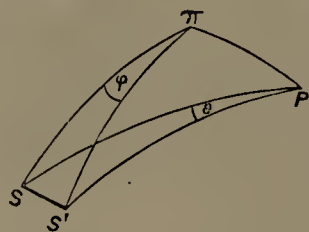
Let $\angle SPS' = \theta$; then

$$\theta = (\phi / \sin \Pi) \sin SP \cdot \cos \Pi SP$$

$$\text{and } \cos \Pi SP = \frac{\cos \omega - \cos SP \cdot \cos \Pi \Pi}{(\sin SP \cdot \sin \Pi \Pi)},$$

where ω is the obliquity of the ecliptic;

$$\therefore \theta = \phi (\cos \omega - \cos SP \cdot \cos \Pi \Pi) / \sin^2 \Pi \Pi. \quad [\text{The rest in Vol.}]$$



11836. (EDITOR.)—From a point P there are drawn, to a circle, two tangents PA, PB, and a chord PCD; prove that, if a chord AR be drawn parallel to PD, the chord BR will bisect CD.

Solution by J. C. ST. CLAIR, M. BRIERLEY, and others.

We have

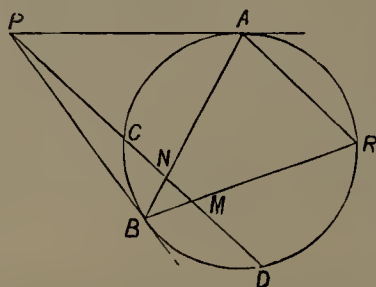
$$(R \cdot CBDA) = (B \cdot CBDA);$$

hence, on the transversal PD,

$$(CMD \infty) = (CPDN).$$

But the latter ratio is harmonic, and therefore CD is bisected in M.

The theorem is true for any conic section.



11409. (Professor MINCHIN, M.A.)—A straight cylindrical wire has a line marked on its surface parallel to its axis. It is then laid along the surface of a right cone (semi-vertical angle α) so that the marked line cuts the generators everywhere at a constant angle i . Prove that the rate of twist at any point of the wire is $(\sin i \cos i \cos \alpha) / r$, where r is the distance of the point from the axis of the cone.

Solution by H. W. CURJEL, B.A.

The rate of twist is evidently the rate of torsion $(1/\sigma)$ of the curve of contact.

Taking the axis of the cone as the axis of y , the vertex being at the origin, the equations to the curve of contact may be written

$$x = r \cos \theta, \quad z = r \sin \theta, \quad y = s \cos \alpha \cos i, \quad \theta = \frac{\tan i}{\sin \alpha} \log s, \quad s = \frac{r}{\sin \alpha \cos i};$$

$$\therefore \frac{dx}{ds} = \sin \alpha \cos i \sin \theta + \sin i \cos \theta, \quad \frac{dz}{ds} = \sin \alpha \cos i \cos \theta - \sin i \sin \theta,$$

$$\frac{dy}{ds} = \cos \alpha \cos i, \quad \frac{d^2x}{ds^2} = \frac{\sin i}{s} \left(\cos \theta - \sin \theta \frac{\tan i}{\sin \alpha} \right),$$

$$\frac{d^2z}{ds^2} = -\frac{\sin i}{s} \left(\sin \theta + \cos \theta \frac{\tan i}{\sin \alpha} \right), \quad \frac{d^2y}{ds^2} = 0,$$

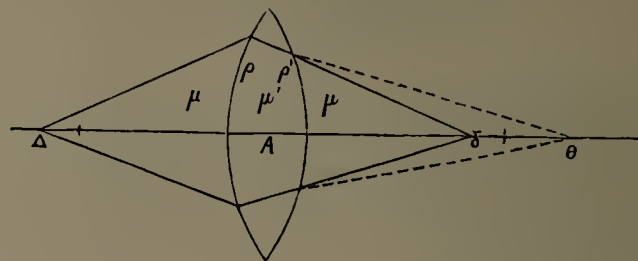
$$\frac{d^3x}{ds^3} = -\frac{\sin i \cos \theta}{s^2} \left(1 + \frac{\tan^2 i}{\sin^2 \alpha} \right), \quad \frac{d^3z}{ds^3} = \frac{\sin i \sin \theta}{s^2} \left(1 + \frac{\tan^2 i}{\sin^2 \alpha} \right).$$

[The rest in Volume.]

3517. (Rev. T. MITCHESON, B.A.)—If β, γ be the distances of the conjugate foci from the centre of a double convex lens whose thickness may be disregarded, for a ray of light diverging from Δ and converging to δ on the other side of the lens; ρ, ρ_1 the radii of the spherical surfaces; and α the distance of the focus to which the ray would converge, were the medium after the first refraction of uniform density; prove that

$$\alpha = \frac{\beta(\gamma + \rho_1)\rho + \gamma(\beta + \rho)\rho_1}{\beta(\gamma + \rho_1) - \gamma(\beta + \rho)}.$$

Solution by H. J. WOODALL, A.R.C.S.



By the theory of geometrical optics, we have

$$\mu' \beta / (\beta + \rho) = -\mu \alpha / (\rho - \alpha) \quad \text{and} \quad \mu' \gamma / (\rho' + \gamma) = \mu \alpha / (\rho' + \alpha);$$

from these, eliminating μ' , we get the expression for α as given in the question.

11206. (Professor MADHAVARAO.)—A pack of cards, equal or unequal, stands on the edge of a horizontal table, each card projecting beyond the one just below it. If the highest card project as far as possible from the table, show that each card is on the point of moving independently of the rest.

Solution by H. W. CURJEL, B.A.

If the pack be supposed to become firm, except between two adjacent cards, if the upper pack is not on the point of moving, it may be moved forward; but as this moves the centre of gravity of the whole pack forward, the whole pack must be moved back to be in equilibrium. But the centre of gravity of the whole pack evidently is not moved forward by moving the upper pack as much as the upper pack. Therefore the top card will project more by moving the upper pack as far forward as possible, and then moving the whole pack back so as to be in equilibrium. Therefore, when the highest card projects as far as possible, each card is on the point of moving.

11637. (R. TUCKER, M.A.)—Two tangents OP, OQ to a parabola meet at an angle ω ; prove that (1) if $\omega = \cos^{-1} \frac{1}{3}$, then the orthocentre of the triangle OPQ (when $OP = OQ$) lies on the curve; (2) if the corresponding chord of the evolute subtends a right angle at the focus, then PQ cannot be a focal chord; and (3) if λ, μ be the cotangents of the acute angles made by OP, OQ with the axis, then, generally,

$$4\lambda^3\mu^3 = (1 + 3\lambda^2)(1 + 3\mu^2).$$

Solution by R. KNOWLES, B.A.

Let the coordinates of O, P, Q be $(h, 0)$, (x_1, y_1) , (x_2, y_2) ; then, since O is on the axis, $h = -x_1$, $x_1 = x_2$, $y_2 = -y_1$,

$$OP^2 = OQ^2 = 4h(h - a), \quad \text{and} \quad PQ^2 = 4y_1^2 = -16ah;$$

from $\triangle OPQ$, $\cos \omega = (OP^2 + OQ^2 - PQ^2) / 2OP \cdot OQ = (h + a) / (h - a)$;

whence $h = a(\cos \omega + 1) / (\cos \omega - 1) = -2a$, when $\cos \omega = \frac{1}{3}$;

and in this case $x_1 = x_2 = 2a$, $y_1 = 2a\sqrt{2}$, $y_2 = -2a\sqrt{2}$;

the equations to the perpendiculars from P on OQ and from Q on OP are

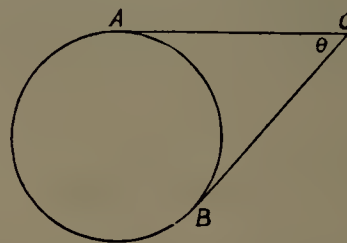
$$y - 2a\sqrt{2} = \sqrt{2}(x - 2a), \quad y + 2a\sqrt{2} = -\sqrt{2}(x - 2a),$$

and these intersect in the vertex, which proves (1). [The rest in Vol.]

11177. (H. BROCARD.)—Les tangentes menées en un point fixe A et en un point variable B d'une circonférence Δ se rencontrent en un point C. Par un point fixe O, on mène une droite OM égale et parallèle à BC. Démontrer que le point M décrit une strophoïde droite (logocyclique).

Solution by H. W. CURJEL, B.A.

Take the initial line OX parallel to AC. Let $OM = r$ and $\angle MOX = \angle ACB = \theta$. Let radius of circle = a .



$$r = BC = a \cot \frac{1}{2} \theta;$$

therefore locus is a logocyclic curve.

$$\text{Cartesian equation is } (y - a)^2 (x^2 + y^2) = a^2 x^2.$$

11695. (Professor SVECHNICOFF.)—Quelle est, parmi les normales à une cardioïde donnée, celle qui est la plus éloignée du point de rebroussement de cette courbe? Généralisation:—Etant donnée la courbe, représentée par l'équation $\rho = a \cos^n \omega / n$ en coordonnées polaires, déterminer quelle est, parmi les normales à cette courbe, celle qui est la plus éloignée du pôle?

Solution by C. MORGAN, M.A.; H. J. WOODALL, A.R.C.S.; and others.

Let $r = a(1 - \cos \theta)$ be the given cardioid; the perpendicular from the focus on the normal

$$= \frac{r}{\{1 + r^2 (d\theta/dr)^2\}^{\frac{1}{2}}} = 2a \sin^2 \frac{1}{2} \theta \cos \frac{1}{2} \theta.$$

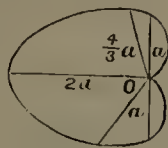
For a maximum value of the perpendicular, $\cos \frac{1}{2} \theta - \cos^3 \frac{1}{2} \theta$ must be a maximum; whence

$$\cos \frac{1}{2} \theta = \pm \frac{1}{3} \sqrt{3}; \text{ therefore } r = \frac{2}{3} a.$$

General case. $\rho = a \cos^n \omega$; whence perpendicular on the normal $= a \cos^n \omega \sin \omega/n$. For a maximum

$$1/n \cos^n \omega \sin \omega - \sin^2 \omega \cos \omega \cdot \cos^{n-1} \omega/n = 0, \quad \cot^2 \omega = n,$$

$$r = a \left(\frac{n}{1+n} \right)^{\frac{1}{n}}.$$



QUESTIONS FOR SOLUTION.

11887. (Professor SYLVESTER.)—Find the least circle which will contain a given system of points in a plane; also the least sphere which will contain a given system of points in space.

11888. (Professor ZERR.)—A paraboloid floats in a liquid which fills a fixed paraboloidal shell; both the paraboloid and the shell have their axes vertical and their vertices downwards: the latus rectum of the paraboloid and shell are equal, and the axis of the shell is m times that of the paraboloid. If the paraboloid be pressed down until its vertex reaches the vertex of the shell, so that some of the liquid overflows, and then released, it is found that the paraboloid rises until it is just wholly out of the liquid, and then begins to fall. Prove that (1) the densities of the paraboloid and the liquid are in the ratio

$$2 \{m^2 + m + 1 - (m+1) \sqrt{m^2 - 1}\} : 3 \sqrt{(m+1)/(m-1)},$$

the free surface of the liquid being supposed to remain horizontal throughout the motion; and (2), if cone and conical be read for paraboloid and paraboloidal, the ratio is $3 \{m^4 - 1 - (m^3 - 1) \sqrt{m^3 - 1}\} : 4 \sqrt{m^3 - 1}$, supposing the vertical angles of both equal.

11889. (The late Professor CLIFFORD, F.R.S.)—A tangent to an ellipse is a chord of a concentric circle, whose radius is equal to the distance between the ends of the axes of the ellipse; show that the straight lines which join the ends of the chord to the centre are conjugate diameters.

11890. (Professor SHIELDS.)—(Connected with Quest. 11744.)—There is a large square piece of land AB, in which is laid off another less square piece CD, whose sides are oblique to the sides of the large square, and the four corners of the inner square CD touch the sides of the large square at a distance equal to $\frac{1}{3}$ of their length from the corners; the inner square CD, being divided by lines drawn from each of the four corners to the middle of the opposite sides, forms another square EF in the centre. These four lines and sides of the square EF are parallel to the sides of the large square AB. From each corner of the centre square EF, as centres, are drawn four equal quadrants q, q, q, q tangential to each other, thus enclosing $2\frac{2}{3}\pi$ acres of land in the centre G. Required the size and area of each square; also, give the area of one quadrant.

11891. (Professor McMURCHY.)—Without knowing the angles of a triangular prism, prove that, by observing the minimum deviation ($2\alpha, 2\beta, 2\gamma$) of rays passing in the neighbourhood of the three angles, the refractive index (μ) is given by

$$\mu^3 - \Sigma \cos \alpha \cdot \mu^2 + \Sigma \cos (\beta + \gamma) \cdot \mu - \Sigma \cos \alpha.$$

11892. (Professor MISCHIN, M.A.)—In the general motion of a liquid (or strain of a solid) if at any point of a stream-line the vortical spin of the molecule takes place round a line perpendicular to the osculating plane, and is the same in magnitude and sense as the time rate of rotation of the tangent to the curve, this tangent is one of the principal directions of the strain at the point.

11893. (Professor HUDSON, M.A.)—A cricket ball, of mass m , being supposed to move with uniform velocity in a horizontal plane, occupies t seconds in traversing the distance, 22 yards, from the bowler to the batsman; find (1) in what direction must it be hit so as to go off with equal velocity in a direction at right angles to that in which it first moves; and (2) give a numerical measure of the blow, supposing $m = 5\frac{1}{2}$ oz., $t = 5\frac{1}{2}$.

11894. (By Prof. GENESE, M.A.)—Each of the four triangles formed by the common tangents to two conics is homologous with each of the four triangles whose vertices are the points of intersection of the conics; or, if more than one conic can be simultaneously described about one triangle and inscribed in another triangle, the two triangles are homologous.

11895. (By Prof. MUKHOPADHYAY, M.A.)—PLINY informs us that "THALES determined the cosmical setting of the Pleiades to have happened in his time 25 days after the autumnal equinox." Supposing the longitude of the brightest star in that constellation to have been, at the beginning of the year 1760, according to Dr. Bradley, $82^\circ 38' 34''$, and its latitude $4^\circ 1' 36''$, the precession of the equinox $50.34''$, annually, and the latitude of Miletus $37^\circ 30'$, determine the time when THALES lived.

11896. (Professor RAMASWAMI Aiyar.)—Let ABCD be a tetrahedron, X its circumscribing sphere, and O the circumcentre. Let L denote any

one of its Lemoine points L_0, L_1, L_2, L_3 (see Quest. 11793). Prove that (1) the distances of L from the faces of the tetrahedron are proportional to the circum-radii of those faces; (2) the tetrahedron whose vertices are L_0, L_1, L_2, L_3 is self-conjugate with respect to X; (3) if the lines joining L to A, B, C, D be divided at a, b, c, d in a given ratio $\kappa : 1$, and anti-parallel sections $\alpha, \beta, \gamma, \delta$ be taken passing through a, b, c, d , the triangles $\alpha, \beta, \gamma, \delta$ are equal in all respects, and their twelve sides are tangent-lines to a sphere; (4) varying the ratio $\kappa : 1$, we get a system of such spheres—the "L" system, briefly; the locus of their centres is the straight line OL; and their envelope is a quadric of revolution touching the faces of the tetrahedron.

11897. (Professor BEYENS.)—A white ball has been drawn from an urn three times running, the proportion of white to black balls being absolutely unknown beforehand. Investigate the chance of the next drawing being white, and the presumption that a majority of the balls are white.

11898. (Professor BHATTACHARYA.)—Observations give results 4.11, 4.23, 4.55, 4.56; find the probable error of the average.

11899. (Professor MADHAVARAO.)—Eliminate x, y, z from the equations $(y-a)(z-a) = ea^2 + fa + g$, $(z-b)(x-b) = eb^2 + fb + g$, $(x-c)(y-c) = ec^2 + fc + g$, $(x-b)(y-c)(z-a) = (x-c)(y-a)(z-b)$, and show that the result is $(b-c)(c-a)(a-b)(c-1) = 0$.

11900. (Professor ORCHARD.)—Given that $(x+y)/x(-y)$ varies as $(y+z)/(y-z)$, and that $x=1$ when $y=2$ and $z=3$, prove that

$$12y^4 + y^3(7x+z) + y^2(x^2 + 4xz - z^2) - 8xyz^2 - 16x^2z^2 = 0;$$

and interpret geometrically.

11901. (Professor KOLBE.)—Find what the result will be in Quest. 11092 (Vol. LIX., p. 34) if the refraction of water be taken into account.

11902. (Professor NEUBERG.)—Soient ABC, $A_1B_1C_1, A_2B_2C_2, A_3B_3C_3, \dots$, différentes sections d'un trièdre OXYZ par des plans menés suivant une même droite. On fait glisser les trois arêtes du trièdre sur elles-mêmes, de quantités telles que les points A_n, B_n, C_n se réunissent au point O. Les triples de points (A, B, C), (A_1, B_1, C_1), ..., sont encore situés dans des plans passant par une même droite l_n . Démontrer que les droites $l, l_1, l_2, \dots$, sont les génératrices d'un même hyperboloïde.

11903. (Professor CATALAN.)—Simplifier le polynome

$$(1-x)(1-x^2)(1-x^3) \dots (1-x^n) + x(1-x^2)(1-x^3) \dots (1-x^n) + x^2(1-x^3)(1-x^4) \dots (1-x^n) + \dots + x^n.$$

11904. (Professor LEMOINE.)—Le premier cercle de Lemoine et le second cercle de Lemoine se comptent suivant un diamètre du second cercle lequel passe par le point à l'infini inverse du point de Steiner, et est parallèle à l'axe radical du cercle de Brocard et du deuxième cercle de Lemoine.

11905. (Prof. SCHOUTE.)—Le lieu des pieds des normales abaissées d'un point P sur des quadriques concentriques et homothétiques est aussi le lieu des sommets des tétraèdres autopolaires par rapport à l'une de ces surfaces et à une sphère de centre P, dont le rayon est variable.

11906. (Professor DE LONGCHAMPS.)—Résoudre les équations

$$(a-b)^2(2x-a-b)^2 + (b-x)^2(2a-b-x)^2 + (a-x)^2(2b-a-x)^2 = 2K^2, \\ \text{et } (a-b)^2(2x-a-b)^2 + (b-x)^2(2a-b-x)^2 + (a-x)^2(2b-a-x)^2 \\ = (a'-b')^2(2x-a'-b')^2 + (b'-x)^2(2a'-b'-x)^2 + (a'-x)^2(2b'-a'-x)^2.$$

11907. (Professor MOREL.)—Le centre C d'un cercle se meut sur une parabole donnée, et le cercle passe constamment par le foyer F de cette parabole. Trouver (1) l'enveloppe de ce cercle; (2) le lieu du point de rencontre de ce cercle (a) avec une parallèle à l'axe menée par C, (b) avec l'ordonnée de C, (c) avec la tangente à la parabole en C, (d) avec la normale menée en C.

11908. (Prof. NILKANTHA SARKAR, M.A.)—If two homologous triangles, inscribed respectively in two other homologous triangles, have the same centre of homology with the latter, the first two triangles will have the same axis of homology as the second two; and, conversely, if the inscribed homologous triangles have the same axis of homology as the original triangles, they will also have the same centre of homology as the latter.

11909. (EDITOR.)—Solve the equations $2(x-y)^2 \{(x+y)^2 + z^2\} = z^4$, $\{3x(x+y) - z^2\} / \{3y(x+y) - z^2\} = (4y-7)/(7-4x)$, $4(x+y)z - z^2 - 16xy = 0$, if x, y be rational, and z an integer.

11910. (D. BIDDLE.)—A square disc has its centre fixed, but the normal pointing to any part of the heavens. A particle falls from a position which is over the square when the latter is horizontal. Find the probability that it strikes the square.

11911. (R. W. D. CHRISTIE.)—ABCD is a parallelogram. An n th part CE is cut off side CD. A diagonal AC cuts BE in F. Prove that the respective areas are respectively proportional to trapezium ADEFA $= n^2 + n - 1$, triangles AFB, BFC, CFE $= n^2, n, 1$.

11912. (S. TERAY, B.A.)—Prove the porismatic identity

$$a^2 + b^2 = [\{2ars + b(r^2 - s^2)\} + \{2brs - a(r^2 - s^2)\}^2] \div (r^2 + s^2)^2.$$

11913. (W. J. DOBBS, B.A.)—If α, β, γ be real positive angles, such that $8 \sin \alpha \cdot \sin \beta \cdot \sin \gamma = 1$, $\alpha + \beta + \gamma = 90^\circ$, prove that $\alpha = \beta = \gamma = 30^\circ$.

11914. (F. G. TAYLOR, M.A., B.Sc.)—If $S_r = a_r + b_r + c_r + \dots + k_r$, $P_{rs} = |a_r b_s| + |a_r c_s| + \dots + |a_r k_s|$, prove that

$$\{\sum_1^n (S_r)^2\}^2 \cdot \sum_1^n (a_r)^2 = \{\sum_1^n (a_r S_r)\}^2 + \frac{1}{2} \sum_1^n \sum_1^n (P_{rs})^2.$$

11915. (R. TUCKER, M.A.)—ABC, A'B'C' are two triangles whose sides contain a, b, c ; b_e, c_a, a_b units respectively; with the usual notation, show that

$$\cos \omega \cos \omega' = \lambda \kappa / 4\lambda'; \quad a \sin A' = b \sin B' = c \sin C' = \sqrt{\kappa} \cdot \sin \omega'.$$

If, further, A''B''C'' has its sides $b^2 + c^2, c^2 + a^2, a^2 + b^2$ units, then

$$\cot \frac{1}{2} A'' \cdot \cot \frac{1}{2} B'' \cdot \cot \frac{1}{2} C'' = \kappa \sqrt{\kappa} / abc, \quad \cot \omega'' = \sin 3\omega \cdot \cos \omega' / \sin \omega,$$

and $2\Delta' = \Delta'' \sin \omega'.$

11916. (H. J. WOODALL, A.R.C.S.)—Given a sheet of stamps, required to find in how many ways it can be folded into a pile of one stamp in a layer.

11917. (M. BRIERLEY.)—Find integer values for x, y, z in the formulas

$$(x^2 + y^2 + a)(x + y) = p^2, \quad (x^2 + z^2 + b)(x + z) = q^2,$$

$$(y^2 + z^2 + c)(y + z) = r^2,$$

p, q, r being each a rational square.

11918. (J. GRIFFITHS, M.A.)—Through each angular point of any triangle circumscribing a parabola, a line is drawn parallel to the opposite side; prove that the new triangle formed by these three lines is self-conjugate with respect to the parabola. Hence, show that the nine-point circle of any triangle self-conjugate with respect to a parabola passes through the focus, and that the centre of its circumscribing circle lies on the directrix.

11919. (H. W. SEGAR, M.A.)—Prove that

$$\frac{1}{4}\pi \int_0^{\frac{1}{2}\pi} \log(1 + \cos \theta \cos x) \frac{dx}{\cos x} = \frac{\cos \theta}{1^3} - \frac{\cos 3\theta}{3^3} + \frac{\cos 5\theta}{5^3} - \dots$$

[This is a corrected form of Quest. 11790.]

11920. (R. KNOWLES, B.A.)—A circle having a fixed centre cuts a given conic in ABCD. G is the point of intersection of the diagonals, and EF the third diagonal of the quadrilateral. Prove that (1) the locus of the points E, F, G is a rectangular hyperbola; (2) the envelope of EF, EG, and FG is a parabola.

11921. (R. CHARTRES.)—BC is a fixed straight line; find the locus of a point A, when the circum-centre, the in-centre, and the ortho-centre

of the triangle ABC lie on the same curve, and show that a fourth point, besides B and C, also lies on the curve.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a *separate* paper (otherwise, when used for printing, the Editor has the labour of entirely *re-writing* such articles); (b) to make their Solutions as short as possible; (c) to send all Questions *early in the month*, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to *prepay* the postage in full; and (f) to send all communications to

W. J. C. MILLER, THE PARAGON, RICHMOND-ON-THAMES.

NOTICE.—Volume LVIII. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, FRANCIS HODGSON, 89 Farringdon Street, E.C. Price, to Subscribers, 5s.; to Non-Subscribers, 6s. 6d.

LONDON MATHEMATICAL SOCIETY.

Thursday, March 9th.—Mr. A. B. Basset, F.R.S., Vice-President, in the Chair. Messrs. F. W. Dyson, M.A., Fellow of Trinity College, Cambridge; J. P. Johnston, M.A. Dublin, B.A. Cambridge; T. R. Lee, B.A., late Scholar of Pembroke College, Cambridge; and Prof. J. E. A. Steggall, M.A., University College, Dundee, were elected members. Mr. T. J. Dewar exhibited twenty Stereographs of the Regular Solids. Instead of taking photographs of a solid object from two points of view for the binocular vision, Mr. Dewar had no solids at all, but drew the same object twice over in perspective, with different station points. The relief was aided by making the lines in the foreground thick, and those behind thin.

The following communications were made:—Note on the Stability of a Thin Rod loaded vertically: Mr. A. E. H. Love, M.A.; On Complex Primes formed with the fifth roots of unity: Prof. Lloyd Tanner, M.A.; The Dioptries of Gratings: Dr. J. Larmor, F.R.S. In addition to the readers of the above papers, Messrs. Greenhill, Walker, Cunningham, and the Chairman spoke upon the subjects of the communications. Mr. Tucker read a brief abstract of a note by Prof. L. J. Rogers, M.A., On a Threefold Symmetry in the Elements of Heino's Series.

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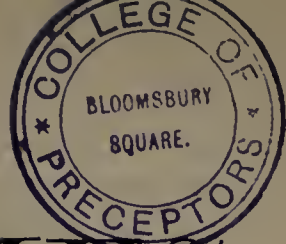
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Note.—A Course of Lectures on Systematic Botany will be commenced on May 2nd. Fee, Three Guineas.

SOCIETY OF APOTHECARIES OF LONDON.

The next Examination in Arts will be held at their Hall, Blackfriars, E.C., on Friday and Saturday, June 2nd and 3rd, 1893.

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COLLEGE OF PRECEPTORS.

EVENING MEETING, APRIL 19TH, 1893.

The Chair having been taken by Dr. J. H. GLADSTONE, F.R.S., Mrs. BRYANT, D.Sc., F.C.P., read the following paper on

LESSONS IN ETHICS.

The subject of ethical instruction covers so wide a field that only a bare sketch can be attempted in a single lecture. But even within the narrow limits at my disposal it is well to begin by definite recognition of the fact that any course of ethical instruction—any series of lessons on morals—can be only a small part of moral education in its full sense. This evening, therefore, we shall not consider all the means of training which make for the production of good character, but only those means which belong to instruction proper—to the deliberate building up, in the individual mind, of such an ideal of conduct and character as will be sure to issue in good life.

The practical question for the schoolmaster is: Can a course of lessons be framed to this end, so that the learners shall really be the better for the lessons? And, if so, what is the form which the course should take?

Questions like these should be answered, in part at least, by experiment, and we may hope that the time is not far distant when their experimental solution shall be very generally attempted. The only reason for delay lies in our slowness to recognise the fact that the acquisition of moral ideas by the rising generation proceeds at present in a dangerously haphazard fashion. Meanwhile, the problem may be dealt with as a question of theory.

Let us determine the object to be fulfilled by moral instruction, and the conditions necessary to its fulfilment. This object is doubtless to secure in the learners a mind well-informed and soundly-thinking with regard to subjects of conduct and character. Such a mind is characterized, first, by the possession of a good stock of actively-working moral ideas, and secondly, by a general activity of imagination, sympathy, and thought on questions of right and wrong in life. The course of lessons, therefore, must be so conducted as to fulfil the following conditions:—

1. It should stimulate imagination, sympathy, and reflection to deal with questions of conduct, and to determine approval or disapproval in the various cases suggested. Moreover, it should bring the problems considered more or less within the range of

the learner's own experience, and make them practical influences on his life.

2. It should tend to the formation of a high ideal of character and conduct, and its choice and arrangement of subject-matter should be such as to secure the greatest possible degree both of stability and practical activity in the ideal formed.

An ideal is stable when its central parts are of a nature not easily to be contradicted by later-coming opinion, as when the child's main notion of the good life centres in the fundamental conceptions of noble character. On the other hand, it is unstable when it centres in ideas of purely conventional morality.

And as regards the requisite of practical activity, it is of the greatest importance that from the first the idea of a right act should tend at once to emerge in the act—should not remain a subject for barren reflection merely. This suggests the obvious remark that practice in some active kind of well-doing should, even for the little child, go hand-in-hand with all theoretic training. Practice and theory, however, when morality is the subject-matter, cannot be worked out on strictly parallel lines. We cannot set moral exercises on our lessons as we set "sums" in arithmetic or exercises on Latin grammar. The practice develops itself naturally in life, and the theory may be learned, to some extent, apart from, though in preparation for it. Barren moral reflection can, nevertheless, I believe, be effectively prevented if we can secure that the imagination and feelings are throughout at work, so that the study never becomes one of mere reflection. When the idea of honour, courage, or truthfulness is before the mind, it should tend to picture itself forth in concrete images of acts corresponding. Such images pass immediately into acts when opportunity serves. And so to preserve moral imagining, as an accompaniment of moralizing thought, is to preserve intact the potency of moral action.

3. And, lastly, a complete course of moral instruction should bring the mind of the learner to understand and hold fast by a proper theory of social relations and the duties arising from them. It should teach the doctrine of well-doing, as applied to nineteenth-century life—the duties pertaining to membership both of the family and of the State. In a well-regulated home, lessons on this subject are given, unconsciously, every day. The child knows what are the duties expected of him, and those go to form the centre of his notion of duty. He sees, also, the relationships of affection and duty which exist between other members of the family, and he realizes something of the place which the father, and other grown-up members, fill in the life of the outside world—in philanthropy, in politics, in social work of every kind. But if the home be ill-regulated these lessons are reversed; and if the home be narrow, the consequent conception of duty will be narrow also. All homes are not perfect; all homes are not even moderately good. There is room, therefore, and need, for the school to take its part in regulating and stimulating the formation of sound social ideas, in the wide ethical sense of that word.

But a systematic course of instruction in these belongs rather to a later stage of school-life than that on which the attempt to form a definite ideal of character may be made. It would be hard to say at what age it is too early to begin this attempt. So soon as the child begins to love a story, so soon it begins, or may begin, to imagine itself the hero of a story—as doing something—as acting in such or such a way—and so soon it is susceptible to ideals of the noble and the good.

Story is the natural vehicle of all such early moral instruction as does not arise out of the actual incidents of daily life—stories told, and stories read, fairy tales, fables, legend, and romance. And too great importance can hardly be attached to the careful choice of literature with which the emotion and imagination of the young child is fed. The younger he is the more readily do his ideas tend to run out into images and acts—the more effective, therefore, is the influence of imaginative literature upon him.

Enough has, perhaps, been said to suggest that my dry-looking title, of "Lessons on Ethics," does not foreshadow any sketch of a course of lessons on a subject wholly new, to be conducted in a fashion wholly novel. Not only do children read and hear stories—and good stories—in their leisure time at home, but literature of some kind is generally recognised in the teaching at school, and is dealt with by many teachers, if not all, so as to bring out the ethical lessons it implies. Still, it must be admitted that this latter purpose is fulfilled somewhat fitfully, as well as for the most part unconsciously, and it must be admitted also—which is more serious—that the notice taken of literature, as a subject of study in the junior classes of our schools, is very slight, compared with its importance as a humanizing influence.

It is very strange that this should be so. The unripe intellect of the child is so little suited for exact studies, while, on the other hand, its very unripeness is so favourable to that formation of tastes and vague but actively-springing ideals, which the study of suitable literature fosters, that it is, indeed, most strange that there should be so much arithmetic and grammar, so little literature, in the curriculum of the young child's studies.

Possibly the reason may lie in the difficulty which all good teachers feel about using literature proper as the subject of a lesson. How is a third person to interfere, with good effect, between the mind of the master and his immediate disciple? How deadly such interference may be we all know. How thankful some of us are that, though we *learned* from Shakespeare and Milton, we were *not taught* them! How we resent even the some-time useful commentator, whose notes have, at least, this virtue, that they can always be skipped, while from the voice of the teacher no hapless class-member may escape! Doubtless, it is some wise distrust of his own use, as a teacher of literature, that makes the ordinary teacher shrink from too much acting of the go-between when there is a good tale or poem on one side and a child's acquisitive intellect on the other. And so literature is not only not taught—that would not so greatly matter—it is not read.

The school is partly responsible for this defect. Indeed it is fully responsible, since it is the business of the school to complete, in all matters of learning, the work of education well or ill begun by the home. What the school could do and does not do, is to turn the boy loose in a good library for a sufficient portion of his time, with such occasional stimulus, encouragement, and reproof as shall secure a good use of that time on an average. The school should have the library and should encourage the reader. Much literature that cannot with advantage be taught in set lessons can be studied in discussion lessons very aptly, the work of preparation being done for the most part voluntarily. What the school cannot do is to secure that the boy has no access to a bad rival library at home, which because of its greater excitements he prefers to the good. This depends on the home, into all the recesses of which the school influence cannot penetrate.

But what has all this to do with a systematic course of moral instruction? It is time that we should find ourselves in the very heart of our subject. Literature is the natural vehicle of moral instruction, and may be used systematically to that end. By literature is here meant more especially story, pure and simple, in its various forms, from "Jack the Giant Killer" to "Ivanhoe." The children's library should contain all the good fairy tales, all the heroic literature of Greek and Roman, of Teuton and Celt, so far as made available in good English editions or adaptations, besides such modern romantic classics as Sir Walter Scott, and a good assortment of interesting stories, travel, and historical romance. The antique classic literature of folk-tale, and original heroic romance, is the literature *par excellence* that should be read and re-read by every child; and, indeed, few children need much supervision to bring them to it, provided at least that the penny-dreadful literature of Jack Sheppards and Dick Turpins is not too ready to their hand. For all purposes of culture, as well as for the culture of the ethical sense, the antique tale should be the staple of the children's library, as our modern classics should be the staple literature for youth and in maturity. Sooner or later, everybody should read all the best literature, and this old long-surviving literature is the best of its kind, and is better appreciated in childhood than is likely later. It is best because, produced as it was in the childhood of mankind, it combines the mature strength of manhood with the simplicity of childhood, with a sincerity which its modern rivals can never imitate.

Just as the preacher takes a text for his sermon, so may the teacher of morals take a story for the basis of his lesson. To the little children the story had best be told, if—a large if—it can be told well. A story told, if well told, is full of charm and power. But the more highly developed stories may often be better read, especially if the telling is likely not to be adequate to their fine turns of thought and literary finish. The really fine stories should never be divorced, in my opinion, from their literary setting. Homer, well translated, is much more telling than the story of the Iliad told by anyone else; and the same remark applies as emphatically to the stories of the Bible.

The story, however, need not always be read or told in class. It may be read at home by the children themselves. This, I believe, would be a very popular course—the story read at home, and discussed by the readers afterwards in class, the teacher not

checking, but controlling just enough to secure that the ethical flavour is sufficiently tasted and applied to self.

We come now to our central question: What is this moral ideal which is to be taught, with literature as its means of expression, and by such methods as have been briefly indicated? The selection of our stories will depend on our conception of this ideal, and the order of their use will depend on the order of development which seems to us best for the end we have in view.

If there are two questions here they may be treated as one, so closely bound up with the notion of the moral ideal is that of the order of its development. For purposes of instruction, I think it will be agreed that the principle of order most expedient to adopt is the principle of stability which has already been indicated. Our ideas of right and wrong are apt to be assailed by hostile ideas which contradict them in part. If conscience of right or the moral ideal centres in ideas easily contradicted, then conscience in general can be easily shaken. But if the core of it be such as neither experience, nor attractive opinion, nor the imaginings of romance, is likely to deny, then the ideal is as difficult to upset and drive from its moorings in character as an ideal well can be.

From this point of view, the prime essentials of the moral ideal are not necessarily the most important, and certainly not the most difficult, virtues. They are, on the other hand, those most obvious virtues which in all ages have been accounted such—the qualities which have been extolled as manly, dignified, and noble in all poetry and all romance. The good life means many things to us, but among them it means at least what it meant for the most part to our most Pagan forefathers—it means at least a life worthy of a man, lived through with steadiness of purpose and unity of aim. This is of the essence of the hero, whatever other qualities he may have in addition. Resolution and courage compel the admiration of even the most immature or feeble conscience; they are elements in goodness even more fundamental to character than goodness itself—purpose, steadiness of aim, resolution, courage, and the sense of dignity and manliness which go with these. This is not goodness, but it is character. It constitutes, therefore, the *natural* ideal of character as issuing in a life which has meaning and purpose.

Little children, like the primitive man, are easily susceptible to the influence of this natural ideal. The imagination of the child busies itself readily with schemes for his own life; his thoughts are naturally attracted to the idea of a person who stands resolutely by his plans, and carries them out in spite of weariness, pain, and fear. He is quite ready, therefore, to appreciate the grand barbaric heroes of Teutonic romance, in whom the virtue of courage and resolution looms mighty indeed. Make such a hero the theme of your first lesson; take some incident from the story of Grettir the Outlaw, in Baring Gould's version of the old Norse tales, and, distinguishing his faults, leave room for the full appreciation of his strenuous virtues. Let that be the central thought of the lesson, while the other moral jewels which the story may contain—whether by way of precept, example, or warning—meet with due remark. From Grettir proceed to some happier hero who uses his strength and will to some single end, and thus bring out from lesson to lesson into clearer and clearer light the truth that the worth of life to self lies in its unity and steadiness of purpose, so that steadiness in itself is noble whatever be the purpose, provided it be not evil. Purpose implies faithfulness as well as courage, and out of this core all the heroic virtues develop one with another. Glory is not won, nor deeds accomplished, without fortitude, heroic skill, and self-denial; while patience, faith, and hope become necessary adjuncts as circumstances require. These lead us at last, in the struggle with overwhelming odds, to that finest spectacle of the hero still strong in the extremity of weakness, through faith in his cause and in a Providence overruling untoward events to its service. In one of the Pagan Irish stories this last flight of the heroic character is admirably described—the story of Cuculain defending the borders of Ulla (the ancient Ulster) alone against a host of opponents sent one by one to conquer him in single combat. It is well told in Standish O'Grady's "Bardic History of Ireland." The cause, however, must be a good, even an exalted one, in order that it may carry this sense of sacredness with it.

And this leads on to more definite consideration of the second idea in the composition of the ideal—the idea of the sort of end which it is worthy of a man that he should serve. Two sorts of ends are at once apparent, and two sorts of persons corresponding—on the one hand the self-seeker, on the other hand he whose affections or sympathies lead him to labour in some way

for the good of others. The latter is the favourite of romance, no less than the approved of conscience. Some degree of consideration for others is required from every admitted hero. Kindness, loyal affection, good faith, hospitality—these are, more than any other virtues, the theme of primitive story. Over and over again they are taught, both by contrast and by example. The great deeds of the true hero shape themselves into means for the expression of passionate tenderness and self-devotion. Over against him, as a foil, is set the ugliness of brutal strength, the contemptibleness of the braggart and the churl. The moral value of Homer's *Odyssey*, as a lesson in the primitive social virtues, has been often pointed out; but it does not stand alone. The old Celtic literature is full of stories teaching the attractiveness of the strong man who is gentle, faithful, and kind, apt to conceal his merits, and be modestly silent about himself, hospitable to strangers, loyal to friends, in enmity scrupulous to keep his treaties, in love constant and self-devoted. Standish O'Grady's little book, in the *Children's Treasury*, "*Finn and his Companions*,"—a modernized version of some of the Irish tales,—may be strongly recommended, as teaching these lessons with exquisite grace and skill; while Dr. Joyce's "*Celtic Romances*," and the "*Bardic History of Ireland*," should also be mentioned. Everyone knows the value of the Arthurian romance as setting forth this ideal of chivalrous goodness, in which the earlier barbarian ideal of the strong man is absorbed.

The chivalrous ideal commends strength, but commends it in relation to the noble purpose and the devoted character for and by which it is employed. We connect the idea of chivalry with the Middle Ages, when it became familiar in the conception of the Christian knight: but the idea was there long before that time in the Pagan mind, certain of development and increase of influence, even if Christianity had not come to give it greater force. The virtues of honour, self-respect, and affection are virtues so deep-rooted in their hold on the human conscience that the cruder morality of Pagan literature grasped firmly the feeling of their value and beauty. And just because they are so Pagan—so obvious—we should place them early at the centre of our moral teaching. It is not till they have firmly taken possession of the mind that it is really ready for the further and more difficult lessons of the Christian conscience.

These were new lessons indeed, though, even for them, there must have been some preparation in the conscience of that section of the Pagan world which played the part of the good soil on which the new seed fell. They are lessons *about* which, in our day, we know so much, and *of* which we still learn so little. It is easy, comparatively, to love one's friends, and to be fair to one's enemies; but it is very hard to extend loving-kindness to the stranger, and hard, indeed, to forgive our enemy. In short, it is much easier to be a good Pagan than to be a good Christian. Doubts, indeed, may be entertained as to the possibility of becoming the latter unless one has first become the former. The mind needs to be entirely attuned to the beauty of the ideal so far sketched, before it is able even to *see* the glory and strength and sweetness of its further extension. For not the least of the difficulties besetting the Christian virtues is the tendency of the average Pagan not to see that they are virtues at all. It is not simply that such a one finds the Sermon on the Mount too hard as a rule of action; he actually finds that he cannot think and feel that way. He does not in his heart believe that it is noble to "love your enemies, bless them that curse you, do good to them that hate you, and pray for them which despitefully use you and persecute you." Probably he feels at the bottom that such a course is poor-spirited and unworthy of a man.

For this third stage in the development of the moral ideal, the chief source of instruction is in the Gospel narrative itself. I should be disposed to rely in the main on a simple but careful study of the life of Christ, taken just as it comes, but with the light always turned on the aspects of moral character and the ideas of moral conduct which it reveals. Not that there should be so much moralizing; that is not necessary. A simple minute study, with a Gospel Harmony, and such methods as will ensure a clear and vivid impression of the narrative—if the teacher secures this, the moral lesson will probably teach itself. To the Sermon on the Mount, and the Parables, more actual elucidation is appropriate, and there is room for moral discussion and moral discourse in bringing the various themes considered to the everyday level of the child's life.

The new lessons should moreover be brought into close touch with the old lessons of heroism and Pagan chivalry. It is curious to note how Christianized renderings of the old stories do this quite instinctively. Examples may be found among the Celtic

tales written down by the early Irish monks, who occasionally introduced a distinct Christian note. Later versions of these tales, as well as the Arthurian legend, bear traces of the same influence, though the main character remains untouched. Of all this the wise teacher will make the most, so that his young Pagans may, like the best of their forefathers, come to feel that the greatest hero is he who preserves his soul from all passion of hatred and revenge, and finds a purpose to satisfy him in beneficence only.

For one more lesson let us recur to our ancient Pagan teachers—the lesson, namely, so appropriate to the schoolroom, that wisdom is a virtue and its acquisition a duty. Wisdom is as necessary to the accomplishment of purpose as courage and skill. Everyone will remember the hero of the *Odyssey*, the wise Ulysses. Obviously he may be used to impress the idea of wisdom as a personal excellence on the child's mind. There are other examples, however, in heroic literature—as the wise and gifted Finn of the Irish tales—and in all fine heroes of romance some degree of intellectual requirement is clearly demanded. The Irish legend is specially marked by the respect it pays to the amiable accomplishments of music, poetry, and the social graces.

More might be said, but I have reached the reasonable limits of my time. Were it otherwise, we might consider the exact position, in our course of lessons, that should be occupied by the Old Testament stories, and the special function they serve. I believe that, for us Gentiles of Western Europe, they come after the Pagan tales and after the New Testament, and this because they are not in the natural line of our development, which culminates in Christianity. To this culmination Hebrew thought and feeling act as auxiliary, but I am compelled to believe that the auxiliary is more effective if taken at a later stage, and for a special purpose, after the Gentile child has climbed to his Gentile Christianity along the way of ideas trodden by his race. In this later stage, Hebrew thought and feeling can teach him much, with its deep sense of the imperative of duty and the exceeding sinfulness of sin. These ideas readily take hold of a mind already in possession of the ideal of virtue, but those who feel not the attraction of goodness are insensible to sin and incapable of repentance. Christianity is not complete without the Hebraic conscience. The interest in its literature, moreover, arises naturally as an interest in the main source of that Christianity which is part of the Gentile's natural order of development.

I have not said a word about that study of social relations on the need of which I touched at the beginning. That is a study for the older classes, and its consideration cannot be attempted ever so briefly to-night.

Mr. HEPPEL so thoroughly agreed with the views expressed in the paper that he could do little more than suggest that its value would become even more evident when those who had just heard it read had the opportunity of seeing it in print and of giving it the study which it well deserved. The lecturer had noticed one obstacle in the way of securing the best literature for children, arising from the competition of the "penny dreadful." He believed a still greater hindrance was to be found in the brightly-bound books with a profusion of pictures that were making children think that the letterpress was quite a secondary consideration. If a child had a book given to him plainly bound and without many illustrations, he was apt to look upon it with a sort of dismay, although in reality it would be more interesting to him than books more outwardly attractive. He urged that more confidence should be placed in the intelligence and taste of young children, being confident that any reasonable demands that might be made on these would be satisfactorily met. He specially noticed Lamb's "*Adventures of Ulysses*," and Hawthorne's "*Tanglewood Tales*," as excellent examples of what children should be encouraged to read.

Mr. SMURTHWAITE remarked that, in these days of crowded curricula and numerous examinations, scarcely any time was left for the formal teaching of ethics. He had, however, obtained good results by pursuing something like the plan that had been advocated by the lecturer. He found it a useful exercise for boys to compare the characters of historical personages. Thus the detestable nature of the cruelty inflicted on the natives by a noted African explorer was more clearly apprehended when compared with the mild and just conduct of Captain Cook towards the savages with whom he came into contact. To take another example, the courage of the English soldiers during the Peninsular campaigns appeared more admirable by contrast with the lack of this quality exhibited by the Spaniards. To come to everyday ethics, he might instance the case of the breaking of a window by one of his boys. It was not difficult, by the use of a few judicious words, to show the boys that justice required that the breaker should pay for the repair of the damage, and that such a course was in accord with the

golden rule, "Do unto others as you would that they should do unto you."

Mr. ORCHARD thought that a hopeful feature in present-day theories was the recognition of the position which should be occupied by ethics in any system aiming at educational completeness. Virchow had recently pointed out that ethical culture formed a chief function of a University, and it was being admitted that moral training could not be dispensed with in the school. In this respect they would all cordially concur with the lecturer. They would also all agree as to the value of the practical ethics advocated by the gentleman who had just spoken. Undoubtedly it was desirable that, in addition to being instructed in ethical principles, children should be trained to apply these principles to their own conduct and to that of others, and to form their estimation of conduct by the degree in which it conformed to the true ethical ideal. With regard to the ethical ideal, Mrs. Bryant had well remarked that it should be "such an ideal of conduct and character as will be sure to issue in good life." With such an ideal, however, the method suggested by Mrs. Bryant did not seem quite in harmony. The place accorded by her to fairy tales and fiction was higher than could be reasonably claimed. Such vehicles of instruction were ill adapted for conveying moral principles, which were nothing unless perfectly reliable and unchangeable. A child who had been entertained with some work of fiction, might ask, "Is it true?" and would be disappointed when the teacher answered, "Of course, not." And, not only would he be disappointed, but his confidence in the morality inculcated would be shaken. He would not know how much was really trustworthy, and he might accept what he would do better to reject. A similar objection lay against the teaching of virtues which were common to Christianity and paganism before such as were distinctively Christian. Pagans, having no adequate conception of sin, had no adequate conception of virtue. Some things regarded by them as virtues—e.g., pride and resentment—were not virtues. Was it wise to teach a *mixed* morality, a concoction of good and bad, which you had afterwards to *correct*? Could a method which proceeded by blunder and rectification, by planting to-day and uprooting to-morrow, be promotive of that moral *stability* so properly insisted upon by the lecturer? Would it not rather be productive of uncertainty and confusion? Other subjects were not taught in this fashion. How much better, clearer, and (in the long run) easier, to *start* from the first with the pure and lasting morality made known to us in the Bible; teaching those principles of conduct which were enjoined by the moral faculty, aided by Divine Revelation. He quite assented to the lecturer's views as to the necessity of exercising care in the literature placed before children, and as to the importance of cultivating active and intelligent sympathy.

The CHAIRMAN expressed his personal obligation to the lecturer for the large amount of light thrown by her paper on those portions of the subject with which it dealt. Children might derive great harm or great benefit from the books they read, and it was, therefore, of the highest importance that a judicious selection should be made by those who were responsible for the education of the young. He agreed with the lecturer that ethics should be taught in the natural and historical order of their development. Certain of the virtues were more easily apprehended by children than others. Obviously, therefore, these should be taught first in order, and the more complicated and difficult ones would naturally follow at a later stage. He thought that the heroic tales of the Teutons, Celts, and others afforded, perhaps, the best means in literature of diffusing correct notions of what he might call primary virtues, such as courage, honesty, faithfulness, &c. It must not be forgotten, however, that there was danger in a too great insistence on these elementary virtues. There could be no doubt that much of pagan and Christian literature, whose main motive was manliness and physical courage, produced an exaggerated sense of military glory, and tended to perpetuate a love of aggression and domination. It also assisted to keep alive the idea that the ordinary business of life and manual labour were fit only for slaves. A regular development of ethics could be clearly traced in the Bible, where the crude ideas of the early Jews were gradually corrected by the divine teachings, until they reached their highest development in the teaching and life of Christ.

Mrs. BRYANT having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A Meeting of the Council took place at the College, Bloomsbury Square, on the 22nd April. Present—Dr. Wormell, Vice-President, in the Chair; Miss Bailey, Mr. Baumann, Mr. Bidlake, Mr. Brown, Dr. Buchheim, Mr. Chettle, Rev. Canon Daniel, Mr. Eve, Rev. Dr. Hiron, Miss Jebb, Mr. Pinches, Mr. Reynolds, Rev. Dr. Robson, Rev. W. J. Savell, Rev. Dr. Scott, Mr. Stewart, and Rev. J. Twentyman.

The minutes of the last meeting were read and confirmed.

The Secretary read a letter from the Vice-President of the Committee of Council on Education, expressing his regret that he could not at present accede to the request of the Council to receive a deputation on the subject of the Secondary Education Bill. He also called attention to a series of resolutions in relation to the Bill, that had been passed by a Conference of the Executives of the Headmasters' and Head-mistresses' Associations.

The names of a number of members whose subscriptions were in arrear were directed to be removed from the members' list.

The report of the Finance Committee was adopted.

The following persons were elected members of the College:—

- Mr. J. T. Branson, A.C.P., Brougham Terrace, West Hartlepool.
- Mr. S. I. Butler, A.C.P., Licensed Victuallers' School, Lambeth, S.E.
- Miss H. L. Chandler, A.C.P., High Schools, Craubrook.
- Mr. A. Chapman, Oak Grove, Mussorie, India.
- Mr. J. Clavey, Schoolhouse, Capel, Tonbridge, Kent.
- Mr. H. Mason, A.C.P., Wilson's Grammar School, Camberwell, S.E.
- Miss L. G. Mason, A.C.P., 3 Oxford Place, Bexley, S.E.
- Miss J. Minto Baillie, A.C.P., 111 Coningham Road, Shepherd's Bush, W.
- Mr. E. Mooney, 20 Applegarth Road, West Kensington, W.
- Mr. F. V. Paxton, M.A. Oxon., South Pallant, Chichester.
- Mr. J. H. Pritchard, 29 Beulah Road, Thornton Heath, S.E.
- Miss E. Robinson, A.C.P., New Marlowes College, Hemel Hempstead.
- Mr. A. W. Williams, A.C.P., Brunswick House, Maidstone.

The following books had been presented to the Library since the last Meeting of the Council:—

By THE AUTHOR.—Herford's Student's Froebel, Part I.
BLACKIE & SON.—Blackie's Guides to the Science Examinations:—Guides to the Examinations in Hygiene, Physiology, Alternative Chemistry, Botany, Applied Mechanics, Physiography, and Theoretical Mechanics; Arithmetical Tables; Algebra for Beginners; Euclid and Mensuration for Beginners; Brief Handbook of the Geography of Asia; Synoptical Geography of the World; Tales from Henty; Pupil's English Grammar; New Dictation Book for Standards IV.–VII.; Barry's Shakespeare's King Henry V.; Baynham's Elocution; Foster's Copy Books (No. 5A), Bold Writing Series (Nos. 21 and 22), Drawing Books (Nos. S1, S2, W, X1, X2, X3, Y1 and Y2), Standard Drawing Cards (Packets 1–19), and Standard Drawing Books (Nos. 1–19); Hassell's Technology for Schools; Lishman and Beszant's Experimental Science as a Class Subject; Major's Teacher's Manual of Lessons on Domestic Economy; McGregor Robertson's Physiology; Rooper's Little Tales for Little Folk:—Honest Dolly, Nora's Dark Look, Fred's Run, Ella's Fall, and Patty's Walk; Thorneycroft's Century Supplementary Arithmetic; Wakefield's Hygiene; Yoxall's Stories for the School Room:—Infant Reader and Books IV. and V.

CLAY & SONS, C. J.—Verity's Milton's Paradise Lost, Books I. and II.
CLIVE & CO., W. B.—Low's English Language; Mackenzie's Manual of Ethics; Wells's Text-Book of Biology (Part I., Vertebrata).

COLLINS, SONS, & CO.—Graded Exercises in Higher Arithmetic; Graphic Reader, Book V.; Graphic Geographical Reader, Books IV. and V.; Graphic Historical Reader, Book IV.; Dickie's Elements of Physiography.

MACMILLAN & CO.—Nall's Xenophon's Anabasis, Book VI.; Week's Exercises in Euclid.

PERCIVAL & CO.—Brackenbury's Selections from Ovid; Harper's From Abraham to David; Hawkins' A Term's Lessons on Air; Heatley's St. Matthew (Greek Text); Jackson's English Grammar; Kingdon's Cornelius Nepos; Little's First Chapter of Macaulay's History; Lyon's Bilder aus der Türkei; Minssen's La Belle au Bois Dormant; Morshead's Byron's Childe Harold, Cantos III. and IV.; Murison's Shorter Poems by Burns, Byron, and Campbell; Preisinger's German Commercial Reader; Steele's Dampier's Voyage Round the World.

RELFE BROS.—Borland's Papers on Cicero de Senectute; Ladell's French Essentials. The Medical Register, 1893. The Dentist's Register, 1893.

THE TEACHERS' GUILD CONFERENCE AND THE SECONDARY EDUCATION BILL.

THE Bill to promote Secondary Education in England, now before Parliament, was the chief subject of discussion at the Annual Conference of the Teachers' Guild, which was held at Oxford on the 17th to 19th of April.

The subject was introduced by papers on (1) The State and Secondary Education, by Mr. M. E. Sadler, University Extension Secretary; (2) The Bill in its relation to Public and Private Schools, by the Rev. the Hon. E. Lyttelton, Headmaster of Haileybury College; (3) The proper Correlation of Primary and Secondary Education, by Mr. J. H. Yoxall, Secretary to the National Union of Teachers.

We append Mr. Sadler's and Mr. Lyttelton's papers, with the discussions on them. We regret that we are unable to find space for Mr. Yoxall's very interesting paper, which opens up a wider subject, which we hope to deal with on some future occasion.

Mr. Sadler's paper was as follows:—

THE STATE AND EDUCATION: (a) Who shall initiate inquiry? (b) Who shall draft schemes? (c) Who shall revise and ratify schemes? and (d) Who shall carry them out when passed?"

Before suggesting an answer to the four questions proposed for our discussion, it is necessary for a speaker to indicate his point of view, and I must ask to be pardoned if, through the shortening of the time allowed to me, I make too summary and imperfect reference to many of the aspects of this complex problem.

It is complex because our secondary education is still a chaos. It is still true, as the Schools Inquiry Commission said in 1868, that "the gulf between the Universities or higher professions and the elementary schools is filled by a loose mass of material which require selection and arrangement in order to make a firm and continuous path." It is complex again, because the interests and needs which secondary education should consider and satisfy are intricate and various—all the pupils do not require an equal amount of it, and the longer curriculum should in some respects differ *ab initio* from that designed for a shorter period. 'Instruction, when suitably ordered, is not one continuous piece, of which any length cut at discretion shall yet be a whole.' Merely to

provide uniformly inadequate provision will not be the right way to equalize educational opportunity.

The needs being complex, the machinery to meet them must be complex too. And the problem should, from the first, be treated as one great whole. Some of the details of organization may be carried out piecemeal, but the original plan should be comprehensive, and, as far as possible, complete. And the forces of our time are increasingly favourable to such a settlement. The growing interest of the public in educational matters, the strongly marked tendency to give opportunities of higher education to promising pupils in all ranks, the consequent rise of teachers of all grades in social estimation, the connecting influence of the railway system, the consolidating efforts of the teachers' societies, the diffusion of experience through educational journals, the unifying power of the State, are all knitting the different departments of education into close relations with one another, with the necessary result that the interests of each section are becoming more interdependent, and the responsibilities of each section less confined. These facts have a direct bearing on secondary education. The organization of primary instruction has thrown the derangement of secondary education into strong relief, and has spread conviction as to the value of training, inspection, and orderly administration. Parents are more awake to their interests, mothers are more educated, the middle class is less self-satisfied, the idea that higher education is an inaccessible monopoly is losing its hold. The Universities are less introspective. A sense of the unity of the whole teaching profession is gaining ground. School Boards are beginning to see that their work needs continuation—County Councils to find out that technical instruction is comparatively fruitless without sounder preparation. The old suspicion of the State is melting away. As the State begins to think more of its citizens as human beings, the citizens in their turn begin to think more kindly of the men who represent the State. There is a feeling that the State, which might give to education "test, stimulus, advice, dignity," should not much longer withhold them all. Moreover, local administration has improved. Besides the School Boards, we have now the County Councils, and more of the same sort is still to come. But this should not mislead us into an apparently simple solution. The unity of education should involve the adequate representation of its diverse elements on a specially constituted authority. Educational interests are too important to be safely entrusted to amateurs elected for another purpose.

What, then, are the chief needs which our new educational machinery should be devised to meet? First, we want to give to every boy and girl who deserves it the chance of a liberal education. As Cranmer urged, "To exclude the poor man's son from the benefit of learning . . . is as much as to say that Almighty God should not be at liberty to bestow His great gifts of grace upon any person, nor nowhere else but as we and other men shall appoint them to be employed, according to our fancy, and not according to His most godly will and pleasure, who giveth His gifts both of learning and other perfections in all sciences unto all kinds and states of people indifferently." But all boys and girls have not the same need. Some want an immediately practical training; others, like the children at Bruton, "not to be taught petite learning, but be made perfect Latin men." This implies the grading of schools, and a curriculum defined not merely by enumeration of subjects, but adjusted, by variety of provision, to the different expectations of the length of school life. The old simile of the educational ladder is misleading. The three grades of secondary education are rather to be compared to adjacent buildings of different heights, with convenient entrances from the top story of each lower structure to the middle story of its higher neighbour. But the economical grading of schools involves the patient execution of a broad policy over a large area, hampered by no parochial jealousies, or by the mistaken economies of ignorant Boards. We should be careful not to seem to put the management of education on a level with that of the village watercart, nor should its needs be allowed to compete, in the minds of County Councillors, with the claims of steam rollers and the prevention of the diseases of pigs. On the other hand, we must retain local interest and loyalty without giving a free hand to local stinginess and intrigue. We want to educate and encourage the pride of the parents in the education of their children, and to employ it as a progressive force in educational work.

Next, as the master or mistress is the mainspring of the school, we want the best teachers we can get—intellectually qualified, properly trained, strictly but intelligently inspected, with wide scope for recognition and preferment, with freedom of method while in their vigour, and adequate pensions in their age. Suffolk suffered in 1866 through having three-quarters of her grammar schools under men who were afflicted by bodily infirmities, ranging from deafness to senility and paralysis. And we want to freeze out the charlatans. Instead of allowing a ticket-of-leave man to open school, no one should be allowed to conduct a recognised school without some sort of ticket-of-leave. At the same time, we want to secure due freedom for private enterprise. Rivalry is good. We shall always need new experiments in education, and some teachers of original character would chafe under the best of Boards. In 1866, Mr. Fitch found that "almost all the educational enterprise of the last few years in Yorkshire had originated with private teachers." Under due conditions of inspection, and with provisos as to the scale of fees, I see no reason why good private schools should not be worked into our regular system of secondary education. They would be specially useful in furnishing preparatory departments for the higher grades of

secondary schools. Anyway, we might allow them to register themselves on proper terms. As the Schools Inquiry Commissioners remarked: "It is tolerably certain, not only that under any circumstances private schools will still be required in this country, but that they have very useful functions to discharge, which cannot well be discharged by any others." We need not make the private schools the Ulster of the secondary-education question. We must spread wide the educational net, but not use it to strangle any good educational work. Secondary schools will touch the Universities at one end of the line, and the elementary schools at the other. Each extremity must have organic connexion with the centre. And this connexion should be not official only, but, as far as possible, through the teachers as well. There is no reason why a young teacher in an elementary school should not have the gown of the Head of a college in his portmanteau.

The curriculum of the schools must be adapted to the needs of the time. A grammar school should give its pupils a liberal education, as defined by the best educational experience of the day, and must not merely be, as Dr. Johnson defined it, "a school for teaching the dead languages grammatically." The deeper the language the more reason that its place in a school programme should be fixed by living hands. Endowments should be boldly reapplied, after due interval, to the needs of the age, since charitable intentions do not confer the gift of prophecy, and wise munificence will be encouraged by confidence in subsequently wise administration.

We want the State to give "test, stimulus, advice, dignity." This implies inspection, the provision or recognition of examinations, publication of reports of progress. "What the State honours, the people honours," as Matthew Arnold said. But, while it would be absurd not to pay due regard to foreign experience, I trust that, if we agree to guide the purchaser of educational goods by some sort of label, we shall not necessarily print on the label the words "Made in Germany," and it is to be hoped that we may take Matthew Arnold's advice, and copy the Prussian regulation that the final school examination should be such as "a scholar of fair ability and proper diligence may come to with a quiet mind, and not a painful preparatory effort tending to relaxation and torpor as soon as the effort is over." We do not want to make secondary schoolboys the victims of mechanical examinations, for, as Wolf said, "*perverse studet qui examinibus studet*," nor do we want to hand them all over to the miscellaneous incitements of South Kensington. The Code should contain not so much detailed direction as a wise variety of models for free imitation. We neither want to centralize education, nor to leave it to the chapter of accidents.

If these are briefly our needs, we shall want a National Council of Education at once. It would give us, as Matthew Arnold said, "a centre in which to fix responsibility." Before all things we need a policy, and no less a body could lay one down with due authority. The Minister of Education should preside over the Council, the members of which might be elected by the Crown, the several Universities, the College of Preceptors, the Teachers' Guild, the National Union of Teachers, the Irish National Teachers' Association, the Educational Institute of Scotland, the Conference of Headmasters, the Association of Headmasters, the Conference of Headmistresses, and the whole body of registered teachers, as was proposed in Mr. Arthur Acland's Teachers' Registration Bill of 1892; though, in view of the larger duties which I propose for it, I should prefer a stronger dash of the State element.

The work of such a Council might be registration, inspection, general oversight, approval of examinations for schools, publication of reports, the collection and diffusion of educational information, and the discharge of the duties of a court of educational appeal, especially in regard to endowments. It should be in close touch with the Charity Commissioners, South Kensington, and the existing Education Department. As to the expediency of identifying it with the latter, I have no means of forming an opinion. Its first work should be to bring up to date the report of the Schools Inquiry Commission (the first volume of which, with the possible exception of Chapter V., might well be at once reprinted). But the success of English administration has been largely due to the co-operation of the organs of central and local government. For the oversight of secondary education we shall need Provincial or County Boards as well.

The proposal to constitute the County Councils the local authority for secondary education has something to recommend it. The apparent simplicity of the arrangement, the existence of educational machinery in connexion with County Councils, their possession of educational funds amounting to more than £750,000 a year, their representative character, the willingness of the County Councillors to undertake the additional responsibility, may all be cited as arguments in favour of the scheme. Some also believe that, as no more Government money will be given to higher education for a long time to come, secondary education had better go where money is. But the signs of the times are in favour of the increasing popularity of educational expenditure; secondary education grants are only a matter of time. And will not technical education need all the whiskey money? At any rate, if the County Councils were suddenly empowered to expend this, their only educational fund, on secondary as well as on technical education, the weight of vested interests would probably force them to spend a very large, if not a disproportionate, share of it in promoting the studies to which it is now their duty to give exclusive encouragement. The new system of secondary education might thus have from the first a one-sided bias which would lessen the chances of its being able to take into proper account the diverse

claims of the various studies necessary to a complete curriculum. I am particularly anxious, however, not to depreciate the value of the educational work which has been done by the County Councils. It is urgently needed, and has been laborious, suggestive, and, on the whole, successful. My argument, which would apply with equal force to a proposal to make a system of purely literary and historical teaching the sole nucleus of secondary education, simply urges that the curriculum of the new secondary schools ought, from its first conception, to be well-balanced and complete, but that it would be unreasonable to expect such a result from an Act imposing new and unfamiliar responsibilities on public bodies which, not being elected on the ground of educational interest or experience, could not be regarded as likely to furnish the necessary counterpoise and correction.

Against the present Secondary Education Bill of Mr. Hobhouse, Sir Henry Roscoe, and Sir John Lubbock, to whom we all owe a great debt for their many labours, I would also urge more specific objections. It merely leaves to the *option* of the County Council the admission by this Secondary Education Committee of certain factors—the teachers, &c.—which are essential to success. The proposed duration of office of the Secondary Education Committee, expiring with the term of the County Council, is too short to ensure continuity of policy. The Bill gives too niggardly recognition of the private schools. And the reference of all educational schemes by the Secondary Education Committee to the whole County Council (which is at least a possibility contemplated by the Bill) would often tend to constrain the Committee in framing its policy to mutilate its proposals in order to avert the opposition of Councillors with more of a turn for economics than for education.

And now the School Boards have entered the fray. They say they are elected for educational reasons; that forty-three of them have spent £455,639 on buildings for education which is secondary rather than primary in its character; that forty-three of these higher-grade schools cost £67,669 a year, and absorb between them one twenty-first part of the whole of the Science and Art grant; that, in towns where School Boards exist, the investment of the County Councils with power in regard to secondary education would necessarily lead to overlapping of effort, possibly to conflict of authority, and almost certainly to wasteful expenditure; and moreover, that in all County Boroughs, secondary education, if entrusted to the County Councils, would be taken out from the larger areas and placed in the hands of an authority as narrowly local as the School Board already existing in the same places. I agree with the School Boards that the Secondary Education Bill gives too little recognition to their useful work, and I admire the organization, discipline, and equipment of the higher-grade schools, though I should be sorry to see their necessary regard for South Kensington generalized throughout secondary education. But School Boards are not universal; they often administer too small areas; they are sometimes deficient in culture, sometimes out of sympathy with the teachers; they are also occasionally associated with sectarian strife; and for these reasons I demur to their being recognised as the sole provincial authority for secondary education. But secondary education will touch both the technical work now assigned to the County Councils, and the elementary work now entrusted to the School Boards. And, this being so, and both bodies being of a popular and representative character, I suggest that the county authority for secondary education should be composed of representatives of both bodies, with the addition (1) as in Wales, of an advisory representative of the State, (2) as indirectly in Glamorganshire, of an advisory representative of the Universities, and (3) of representatives elected by the teachers themselves.

An entirely new educational authority of this kind would start with a clean sheet. Elected for educational purposes alone, having jurisdiction over a considerable stretch of country, preferably a county area, but given full powers to act with neighbouring authorities according to geographical convenience, armed with power to draw upon the rates, and in receipt of Government grants, entrusted with the administration of various endowments, in touch with the National Council of Education on the one hand, and with District Boards on the other, representative of the County Councils, the School Boards, the Universities, the teachers, and the State, these Boards would act with authority, with experience, with energy, with prestige. The advisory representative of the State would keep each County Board in touch with head-quarters, and indirectly with the experience of other county authorities; he would come as a counsellor and a friend, not as a bully, an interloper, or a spy. The advisory representative elected by a joint Board of the Universities, would keep the Universities in touch with the educational opinion and needs of the country, and the County Board in touch with the Universities. I would not have him a merely ornamental gentleman, but a wisely chosen expert, well acquainted with the Universities, to whom he would bear an annual report. And I would suggest that at least the travelling expenses of all members of the Provincial Board should be paid.

Two further questions incidentally arise. Is it well to entrust so large a matter as secondary education to any but a Board directly elected by the people? Direct election, it may be argued, would interest the people more; it would also confer on the Board a more definite mandate. On the other hand, multiplicity of elections is unwise. If they dribble on at intervals, public interest is dissipated; if all take place together, there is danger of a political ticket being put forward for the lot. These considerations, together with the great cost of elections, make me incline to the scheme of indirect election, at any rate at first. Secondly, are the

large towns to be abstracted from the areas of the County Provincial Boards? The Schools Inquiry Commissioners thought it "advisable that towns of 100,000 inhabitants or more should be allowed to withdraw themselves from the jurisdiction of the Provincial Boards, and rank as provinces by themselves." "Such towns," the Commissioners argued, "are too independent of the country round them, and have a life too entirely their own to be rightly treated as a part of a larger whole. Their educational experience ought to be complete in itself." Up to a certain point this is inevitable, and yet I regret it. In County Council work, educational policy has often been parochialism, through the absence of the representation of the big towns which are abstracted from the County areas and constituted as County Boroughs. The big towns ought to help the surrounding villages, not be administratively divorced from them. They are often the natural railway centres, and, therefore, the best higher-educational centres, or a wide district. True, they would need a complete educational equipment of their own, but this is no reason why their schools should not be wisely co-ordinated with the schools of the neighbourhood, since schools, even for town boys, are best in the country. The large towns would furnish an element of experience and enterprise which the Provincial Boards could ill afford to lose. And any argument which holds good against the Commissioners' exclusion of cities of 100,000 people, would *a fortiori* apply to County Boroughs, which need contain no more than 50,000, and the exclusion of which, being more numerous, would leave still greater blanks in the more populous areas under the administration of the Provincial Boards.

Finally, we should need a grade of smaller authorities still—District Boards they may be called for convenience. These would sustain the local interest in the schools—a necessary condition to their complete success. They would have oversight of the fabric of the schools, and under due regulation might have a certain choice of curriculum. Strict provisions should govern their control of fees and their management of finance. Their area of administration should not be too confined, and they might supersede the smaller School Boards. We do not want the Village Council to bully the village schoolmaster. They should represent the Town Council or District Council, the parents, and the Provincial Secondary Education Board, in fair proportion. If they had the right of appointing the master, they should not be allowed to dismiss him without his having the right of appeal. Neither should they be permitted to dislocate the grading of the various schools under the supervision of the provincial authority. But within these limits there would be ample work for District Boards to do, and, by doing it, to excite and educate parental and popular interest in the schools.

To the four questions, therefore, propounded for discussion, I would venture to give the following answers. The County or Provincial Board should initiate inquiry. The same Board, having access to model schemes previously framed by the National Council of Education, should draft schemes for the judicious grading and provision of schools within the area of its administration. After, perhaps, referring the scheme to the several District Boards for comment, the Provisional Board would submit it to the National Council of Education for revision and rectification.

Finally, the provisions of the scheme would be carried out, when passed, by the Provincial Board, so far as larger matters of general policy were concerned, and in matters of local detail by the District Board. But I would submit that such an arrangement should be regarded as experimental only. Subsequent experience will show where it is wise to impose heavier responsibility—where to curtail freedom and where to enlarge it.

Mr. W. BROWN expressed his concurrence in many points with the views advanced by the writer of the paper, more especially with regard to the necessity of appointing educational experts to serve on councils or committees that would have to do with secondary education. He could not regard the County Councils as satisfying this condition, elected as they were mainly for political considerations, while most of the work they were called upon to do had little or no relation to the educational problems of the day. Further, he entirely objected to submit the decision of educational questions to the arbitrament of the ballot at municipal elections, and to subject the authority thus constituted to triennial transformations. There must in any case be a permanent element of properly-qualified experts, who would not be liable to change at the will of the ratepayers; and there must also be some central authority to which should be committed the control of the local authority, and which would also serve as a court of appeal.

Mr. H. A. NESBITT said that, before they considered what form the intervention of the State should take, it might be asked whether Government interference with secondary education was at this stage necessary at all. It had been asserted by the reader of the paper that the suspicion of State interference, which once prevailed, was dying away; but he doubted whether this was the case, and the state of our primary education did not encourage us to take too sanguine a view of the possibilities of placing our secondary education under the direct control of the Government. The endeavours of the public elementary teachers to escape from Government control and direction were hardly suggestive of increasing confidence in State interference. He suggested the advisability of postponing the consideration of the questions raised in the paper till a general Council of Education had been established.

Miss CREAK expressed a desire, if it were possible, to move a resolution in favour of the postponement of legislation until the present condition of

secondary education had been inquired into and reported on by another Royal Commission. She believed that the number of children for whom secondary education was supposed to be required was greatly exaggerated: for instance, in Birmingham it had been estimated at 13,000, whereas 5000 would, she considered, be nearer the mark. There was an essential difference between primary and secondary education, which required to be determined before any reliable calculation of the extent of the need could be arrived at. With regard to the proposed constitution of local Boards to deal with secondary education, she doubted whether the right sort of men could be secured for such important and difficult functions. She protested emphatically against anything in the nature of hurried legislation on so important a matter as the organization of secondary education.

Mrs. GREEN suggested that parents might be represented on the local boards as well as teachers.

The PRESIDENT OF MAGDALEN COLLEGE said, with regard to the suggestion that immediate legislation for the organization of secondary education would be premature, it was to be considered that there was a gathering force of opinion among the general public which was pressing the subject on the attention of the legislature; and if only they could be assured that it would be well done, he for one thought it should be done quickly. He would therefore rather consider what form legislation should take than whether it should be taken at all. He was strongly of opinion that the general control of our secondary education should be entrusted to a General Educational Council, and that such Council should be of a permanent character, the members being appointed for a term of ten or fifteen years, if not for life, and that it should certainly comprise a considerable proportion of representatives of the teaching profession.

Miss E. C. WILSON mentioned that in the United States, where there was practically free secondary education, there were also large numbers of private schools, and it might be expected that there would be ample room for private enterprise under similar conditions in this country.

Rev. W. C. COMPTON said that he was one of those who objected to legislation of the kind contemplated in the paper they were discussing. Assuming for the sake of argument that the alleged need existed, he contended that legislation should be confined to seeing that due provision for secondary education was made. The duty of the proposed Council of Education should be, not to frame schemes, but to act in a consultative capacity, after the manner of the Headmasters' Conference, and as far as possible to keep the ground clear for the contest, which would result in the survival of the fittest. If the State, through local bodies or otherwise, were to step in, and fetter the schoolmaster's action, all life and go would be taken out of education. He could not, however, conceal from himself that opinion seemed to be drifting in another direction, and that, while the disestablishment of the Church was being brought into the field of political discussion, there were signs of the setting up of an Establishment in the domain of secondary education.

Mr. T. D. HALL said what was wanted at the present moment was a new Commission, like that presided over by Lord Taunton in 1864, which should inquire into the present condition of secondary education—a Commission which would have authority to say where deficiency existed. The objection as to the delay which such an inquiry would involve, was not, he considered, a very important one, seeing that by the aid of Assistant Commissioners it might be possible to report in the course of two or three years.

Miss FINDLAY remarked, in reference to the claims of School Boards to be entrusted with the custody of secondary education, which had found such decided expression at the recent Manchester Conference, that before such a claim could be seriously entertained, it would be necessary that the Boards should be differently constituted from the present ones. On the other hand, if the matter were left in the hands of the County Councils, it was by no means certain that the rate would be used for the chief purpose for which it was intended to be raised.

Mr. F. STORR said the experience he had had of the Headmasters' Conference did not lead him to put any great faith in the capacity of a body constituted as it was to carry out urgent reforms. The desirability of some organization of secondary education was acknowledged on all hands, and they did not want the consideration of the matter to be relegated to a debating society. What was wanted was a Council to regulate and co-ordinate all kinds of education, primary, secondary, and university. It would not do to commit the work of inquiry to bodies elected for miscellaneous purposes, but they should be elected *ad hoc*, and their recommendation should be subject to review by a central authority.

Mr. R. M. HUGH-JONES said that what was at present being done under the Welsh Intermediate Education Act exemplified the need of such work being undertaken by experts, and not by men who had no practical acquaintance with educational problems. The schemes that had been drafted were full of serious mistakes, and schools were projected in one district without regard to those already existing, or to be established, in an adjoining district. A Central Council, consisting mainly of experienced educationalists, was a *sine qua non* in a scheme for the organization of secondary education.

Mr. J. WELLS said he was one of those who did not acknowledge the imperative necessity for immediate legislation, in view of the deficiency of information on elementary facts, and the complexity of the conditions that had to be dealt with. They were not educational obscurantists, but they could not ignore the many difficulties that stood in the way of the

re-organization of our educational system. The opener advocated the setting up of three separate authorities, but he did not see how they could be expected to work together; nor who was to do the work without adequate payment.

The following paper by the Rev. the Hon. E. Lyttelton, Headmaster of Haileybury College, was then read:—

THE SECONDARY EDUCATION BILL IN ITS RELATION TO PRIVATE AND PUBLIC SCHOOLS.

The subject which I have the honour to introduce to your attention for discussion is a very large and exceedingly difficult one. I shall not attempt to make it larger or more difficult than is needful by dealing at any length with it on the construction side, but shall try to confine myself principally to a criticism of the proposed Secondary Education Bill, in its relation to the vast mass of schools comprised under the names of private and public. For reasons which will appear shortly, the former class of schools will occupy the greater part of the time at our disposal, and a fair consideration of this part of the question will make it necessary to touch incidentally on some educational and legislative questions of wide and somewhat controversial import.

The first remark I would make is that we are in great danger of confusing legitimate caution with speculative prophecy in our outlook of secondary education. We are all wanderers in an educational chaos, in which not only is nearly every principle treated as an open question, but the actual hard facts are extremely likely to escape notice. Thus we are reduced to considerable uncertainty when we attempt to forecast the probable activity of County Councils, when they have been empowered to assist secondary education out of the rates. The Councils may well differ from each other in zeal; a lethargic Council may have to deal with a district very ill provided with secondary schools, and a rampantly zealous Council may find its sphere of action hampered by a very adequate provision of these schools. No one can say for certain what would happen in either case. I will therefore clear the air at starting by saying that in all probability we may assume a considerable activity among the Councils generally, and that on that assumption I shall proceed to discuss the effect of the Bill on private schools. This assumption seems reasonable because Englishmen at the present day, whatever other qualities may be predicated of them, have a profound belief in the value of doing something; and that whereas this belief is in most cases rescued from finding a vent in vigorous action by the difficulty of raising money, it is hard to say what else could have the same effect when once the money has been found for them. To a certain extent a Board or Council stultifies itself in the eye of the public by inaction. The county paper has nothing to report of it, and consequently fills up the vacant column with criticism not far removed from ridicule. The pressure in this direction is unintermittent, and probably increasing; while in the case of subsidising or founding schools the evil effects of over activity are just those which it will be easy to minimise or ignore. Lastly, on County Councils few questions excite more interest than those connected with bricks and mortar. The County Councillor is here at home. There is nothing in the subject which excites angry feelings, but quite enough to keep a sub-committee well employed for some months. It is not difficult to imagine self-interest playing its part. A connexion between some building firm and one or more of the Councillors might conceivably bias the decision not only as to the size of the proposed fabric of the new school, but even as to the desirability of erecting one at all, while meantime it is very doubtful whether any large or enlightened educational views would be found sufficiently strong to counteract less lofty motives. In short, it seems that all forces will tend in one direction. Inaction, however enlightened, would win no credit; but a busy policy, almost entirely unchecked by financial stress, will win applause and be found thoroughly congenial to the tone of the time in which we live.

Of course, certain checks have been provided for in the Bill. To these we will return later. So much I have said in support of the assumption that a considerable degree of activity under the new Act is to be expected; in short, that a *laissez faire* policy is perhaps the very last outcome of this Bill that any reasonable man would prophesy.

To turn now to the existing private schools. What have they done? What are they doing? Are they numerous? If injured by the operation of this Act, have they any right to consideration? These are the questions to be considered.

First, as to their number. This is rated at something between ten thousand and twenty thousand, though no one knows accurately; nor, if the number of schools were known, would the number of boys taught in them be known. The number is, anyhow, very large. But the precise questions before us would be the same as they are, even if the number were only half what is estimated. As to what they have done in the past, we must be careful to keep our ideas clear of prejudice. Charles Dickens has presented the public with a picture of a school carried on for private profit, so graphic and powerful that it is probable that, independently of more modern accounts, our estimate of private schools will be largely coloured by it till long after the date at which it might be said to be truthful. It is true that more modern disclosures reveal, in some cases, a deplorable state of things; but we have only to examine the report of the Royal Commission of 1869 to see that what might have been expected is true, viz., that such schools at that time differed enormously from each other, and almost certainly do so still. It is, however,

extremely important to bear in mind the express testimony of one most competent witness, that the conditions under which these schools exist and work, have been especially favourable to the origination and development of new ideas in education, and I can imagine no quality which is more likely to justify an appeal from the private schoolmasters to the Teachers' Guild for assistance than this. It is one, moreover, which anyone acquainted with the inner life of a public school, especially of the larger ones, can perfectly understand. Now, if this was true in 1869, is there any reason to suppose it less true at the present day? On the contrary, if the practical efficiency of schools generally has undeniably improved, we must hear some good reason given before we refuse to include private schools among those that have materially changed for the better in the last thirty years. The best parallel which could be taken is that of the preparatory schools, specially well-known to public schoolmen; since pretty much the same influences are brought to bear on them as on the others, namely, competition of a very severe kind, combined with a greatly increased facility of getting good masters, and freedom from vicious local traditions. In the case of the preparatory schools, then, the improvement has been the most striking educational fact of this century in this or, I believe, any other country. It seems, therefore, reasonable, in default of evidence, to credit private schools with a similar advance in methods, equipments, and tone. It is, moreover, a perfectly sound plea that is made by the masters of these schools, that the movement for the training of teachers has had no warmer supporters in England than the founders of the College of Preceptors; and, again, that the promoters of the cause of teachers' registration have been largely recruited from the ranks of private schoolmasters. These are large and important claims which will hardly fail to receive ample recognition from any body of men and women thoroughly alive to the needs of English education, and to the work that has still to be done before the profession of teachers secures itself the status and appreciation which it deserves.

But when we come to consider the attitude adopted by the State, we find that it is not one of very pronounced sympathy. What is likely to be the effect of the Bill we are discussing on this class of schools?

This important question has received many answers in public and in private. In public, the note of alarm has been loudly sounded by the private-school masters themselves. In private, among several men with whom I have discussed the subject, I have not met one who did not think the prospect before them one of more or less certain extinction. Under the new Act there might be a cluster of private schools in a borough, suddenly and without consultation reduced to competing with a new county school, built with all the latest improvements, conducted by the local authority, securing the services of a highly-paid staff of masters, and, above all, offering a free education to the public. It is true that the clauses in the Bill, as at present drafted, leave many points vague, and that nothing definite is said about one or more of these conditions. But still, as at present arranged, this is the prospect of what might happen anywhere, and very probably would happen in several districts. Of course, with such schools competition would be out of the question. The private schools in question would die.

But supposing it be an established fact that the private schools were doing good work, is there no provision made for the Council aiding such schools instead of crushing them? The only provision made was added in the draft of the Bill printed on the 1st of February last, to the effect that there is nothing to prevent scholarships provided by the local authority being held at efficient private schools. This is a concession granted, presumably, after some urgent representations had been made. It seems to me to indicate the impotence of the Government more distinctly than if no mention had been made of private schools at all. Consider the facts. The County Council may find that a few private schools, though undeniably efficient, leave a large number of boys unprovided for. The education committee is appointed and has two courses open; either to foster the private schools by establishing scholarships in them, or to fill up the gap in their own way. If they do the former they would doubtless attract a certain number of boys who at present go to elementary schools or nowhere, the sons of parents who cannot afford to pay the fees of a private school. In a few districts this might approximately meet the need; but very often it would fail altogether in doing so. For this provision to be successful, we should have to imagine the existence of a yearning desire on the part of the lower middle ranks of society for an education of their sons. There is no sort of evidence that such a yearning exists, but on the contrary grave reason to believe that the class of parent we are considering is becoming more and more inclined to rate all education at a money value in view of possible returns. Let us suppose, then, that a private school has been carried on for some years by a man endowed with a lofty ideal of training the young, and with a genuine zeal for knowledge for its own sake. This man's curriculum will be based on enlightened principles, and his influence on boys will be thoroughly good; but obviously the whole training will be thoroughly independent of mercenary considerations. It will be foolishness in the eye of a father who desires to get his son into a business house, and to previously equip him with just such qualifications as will best fit him for that work—a knowledge of shorthand, a smattering of German, and a love of routine. Clearly, then, it will seem to him best to refuse the scholarship at the private school, and to wait till the county school is built, and then if the curriculum suits him, as it probably will, send his boy there thankfully. I say it probably will suit him, because it will be

in the hands of men like-minded with himself, who have sons whom they also wish to provide for. Is there any reason to suppose that under these circumstances the concession of scholarships will do anything to avert the impending ruin of the private schools?

Such a prospect will appear little short of deplorable to the perhaps dwindling minority who believe in the value of voluntary effort as distinct from State control. To those, on the other hand, who are gifted with a robust faith in the educational insight and magnanimity and largeness of purpose of a body of men elected as County Councillors are, it will appear that we are on the verge of an eve of glorious educational reform. Much depends on the point of view. It will, however, not be disputed that, granted the efficiency in staff equipment and teaching of some of these schools, it is much to be desired that some way could be found of retaining their services for the county, or in default of that, some way of dealing with them in a spirit of justice and generosity. Is this possible?

If the services of the best private schools are to be retained, there must be organized, first, a system of inspection, whereby efficiency can be ascertained; next, there would follow the alternative either of leaving the schools as they are with additional scholarships or of subsidising them from the rates. As to inspection, it is worth remarking that the private-school masters are not only willing to undergo it, but anxious for it if it be of the right kind, that is to say, conducted by a properly constituted educational authority, and inexpensive. It should in their view take cognizance of the efficiency of the headmaster and his staff, and of the school buildings and sanitation, but should not insist on such rigid examinations as would hamper the schoolmaster in his choice of subjects or arrangement of time-table. This would not be difficult to organize. But the crux of the question is still to be touched. Suppose, what is certain to happen, that an undeniably efficient private school, tested by inspection, fails to cover the ground in a rapidly growing borough or scattered county district, and the County Council feels that they must supplement it by a rate-aided new school, what would be a just, and generous, and politic course to pursue with regard to the private school?

There are three courses open to the Council; whether they are all just, generous, and politic is not certain. First, the Council could ignore these schools, and kill them by the rate-aided establishments; secondly, they might compensate them; thirdly, they could subsidise them with a view to their enlarging their buildings and equipment so as to accommodate a larger number of pupils.

In favour of the first course, that of killing such schools, there is very little argument; but—what is far more formidable—some precedent. During the last forty years we have seen a great company school, like that of Clifton College, spring up into vigorous life and crush out several private schools in the town. No outcry was raised; at least, if it was, the echoes of it have not lived to our day. Why, then, should the State be more considerate than a company?

The answer, surely, is, that the company had to run some risk in open competition to existing schools, whereas a rate-aided school, especially if it offered free education, renders all competition impossible. And, moreover, the question should not be argued as if it concerned individuals only. We are discussing whether voluntary effort of tested efficiency should be eliminated or not from the sphere of educational work. For my part, I have no hesitation in saying that efficient private effort is exactly that which we ought most jealously to preserve and foster in our educational institutions, simply because a gifted schoolmaster quickens a school with the power of his own individuality, his own interests, and his own mind. This is something like the imparting of life; and, compared with this, the work of the best system imaginable is mechanical and unproductive; and a school founded and controlled by the education committee of a County Council is not the best system imaginable. Efficient voluntary effort secures for us one very precious boon, variety; I don't mean variety as between one county and another, but variety born of difference, of conviction in individuals, different tastes, and different enthusiasms. There is no provision in this Bill at present for securing that such variety—the outcome of real life—shall not be forbidden. What would be the fate of a heaven-sent enthusiasm for English literature, or history, or the Bible teaching, if the votaries of these subjects were entirely in the hands of an educational committee, chosen without the least reference to educational knowledge and experience, and infected with the pestilent heresy that the training of living organisms must produce rapid and visible results, and that those results must be expressed in terms of *£. s. d.*? There is no need for us to plunge headlong into the religious question, but this I will say, that the only religious teaching worth a straw is that which is delivered by men who thoroughly believe what they are saying, and that, if you gag the mouths of men of strong religious convictions, you are depriving the young generation of a very precious and life-giving influence, and that, therefore, the secularization of a school, or the binding down of its teaching to what has been called a parliamentary deism, is not the right solution of the problem; but what every statesman ought to long for is that varying convictions should have free and full expression, and that teachers of different persuasions should each and all be unfettered in saying what they please, and how they please, to the sons of parents who are willing that their children should be handed over to their care. This is true liberal treatment, and the object is not an impossible one; but the Bill, as now drafted, forbids variety and the free expression of diversity in religious teaching, and there is no guarantee that its effect would not

be equally to crush out all variety in the purely intellectual side of schools, and in the actual methods of teaching. It is perfectly impossible that we should acquiesce in a lifeless uniformity in subjects of such delicacy and importance, being enforced upon us by men who know nothing whatever of education. Therefore, I submit that the killing of the private school would be a national loss—not because the present generation of private-school masters are all private teachers, though they may be, but because the crushing of varying tastes and enthusiasm must be fatal to real progress.

Next, the Councils must compensate the private schools. Educationally this meets none of the objections urged in the last paragraph. It is a question of justice, and a very difficult one. I can only very briefly deal with it, and the first remark to be made is that the precedents for compensation, such as, for instance, were enumerated by Mr. Chamberlain in his speech at Birmingham, on April 6th, do not exactly meet this case. They are (1) the slave trade in 1833, (2) the proctors in 1857, and (3) the army purchase in 1871. In all these cases, though less obviously in the second, injury was done by legal prohibition to a class which previously was openly recognised by the law, and whose proceedings were to some extent countenanced and authorized by the State. But the private-school master has ventured his money without any form of authorization from the State; and the injury that would be done him would not be the injury of a prohibitive enactment, or, as in the case of the proctors, the legal throwing open of a previously existing monopoly. Apparently, in that curiously developed organ known as the eye of the law, he would be merely exposed to a fair competition. A county school four miles off does not visibly damage a private school, as a railway, for instance, damages a landowner's property. Nor is the case of a publican yet similar, as the publican has obtained a licence from the State, though I admit that this difference would disappear if private-school masters were registered. It looks, in short, as if the long-delayed decision about compensation of publicans might have a considerable effect on this question of compensation of registered private teachers; and it would be quite in accordance with English ideas to include in a category for similar treatment men to whom the bodies, minds, and souls of the rising generation are committed and licensed vendors of spirituous liquors.

Thirdly, they might subsidise the schools with a view to enlarging them. This course, I am informed, is adopted in Denmark, and in the case of compensation, we must consider not perhaps the soundest, but the most prevailing ideas which will influence this question. If granted the tested efficiency of the schools, there should be no possible objection to subsidies, except that in some cases the enlargement of a school might destroy its peculiarly individual character by diminishing the personal influence of the headmaster. But we live in an age of universal suspicion. It seems as if no one could claim to be a wise man who does not mistrust the majority of his acquaintances, and especially if they have control of public money. I fear that it is impossible that subsidies from the rates should be given without the certainty of the baneful influence of people's interference.

In order to sum up the conclusions at which we have arrived, it will be necessary to make some constructive suggestion with all diffidence.

Unless we are prepared to uphold the strange belief that all County Councils are fitted to solve the thousand and one educational problems which await solution, we must be prepared for excessive activity on their part, the result of which will be the crushing out of voluntary educational enterprise, and the subordinating of vital educational interests to the transient but well-defined demands of a prevailing mercenary spirit. There are only two possible suggestions. The first is this: Surely the gaps, if they really exist, can be filled by some of the numerous schoolmasters in search of employment. If there is a demand, there is certainly a supply; the existence of gaps means that there is no demand. In short, leave it alone. The whole Bill is a mistake.

The objection to this is very simple. It is true there may not be a great demand for county schools, but even if there be such a demand schoolmasters in search of work cannot supply it. If a man has to buy land and buildings, he must charge fees which are too high for the class of people who need the schools. The men are there, but the money is not.

This leads to the other suggestion. Since the gaps must be filled with the aid of public money, the County Councils may be given the right of initiating schemes for the filling of gaps, and the duty of supplying funds. But their powers must be controlled by a council of educational experts, who should be entrusted with the vetoing of any excessive activity, and with a very considerable amount of control over the management of any school which has been subsidised or newly founded. The local authorities would thus draw the attention of the higher council to the needs of a district. The fullest and most careful inquiry should then be held as to whether the need really exists, or is the creature of some sectarian imagination or diminutive local jealousy. The inspection of local private schools should be in the hands of the higher council. This council should then, after consultation with the local authority, in the event of a real need being felt to exist, decide on the kind of school to be set up, and the kind of curriculum of studies to be pursued. The aim would be not towards one uniform pattern of school, but towards a reasonable variety, based on local feeling and associations. Even in the religious difficulty, this could be done. The educational council might perfectly well leave the decision as to the

denomination of the new school to local feeling, ascertained by a special vote. The question would be: "Do you wish for a Church school, or a Dissenting school, or a Unitarian, &c.?" According to the answer, the headmaster of the school would be chosen. But there should be not only a conscience clause, but an injunction that every facility should be given for ministers of other denominations to teach on the premises if parents required. In this way people could get their children taught what they believe, instead of, as at present, having to put up with a form of teaching from which anything that anybody believes is almost sure to be excluded.

As to the composition of the council, there is no reason why it should not be made up exactly as has been proposed for the Registration Bill by the Teachers' Guild; it might, in short, be the same council. Its work would be so important, and so interesting, that the best men in the country would gladly serve on it. But the Registration Bill ought, perhaps, to come first, in order to secure, to some extent, the claim for compensation in favour of extinguished private schools, as has been already explained.

I ought to apologise for having said nothing about the public schools. My reason is, that the battle will be fought out first in the questions concerning the private schools, and it is impossible to forecast the effect on public schools till a later stage in the movement is reached.

In any case, vast and far-reaching changes are contemplated, and I have only left myself space to record my conviction that, unless a controlling educational council is established over the County Councils, the changes that we shall probably live to see will not only be far-reaching, but disastrous in the highest degree.

Mr. W. BROWN desired to express, on behalf of the private-school teachers, their gratitude for the sympathetic way in which their case had been dealt with by so distinguished a public-school master as the writer of the paper. There might be room for some difference of opinion as to the number of children who were being educated in the secondary schools of the country, but he thought that, if they put the number at 700,000, they would be well within the mark, and of these it had been computed that about three-fourths were pupils in private schools. It was evident, therefore, that any legislation which affected the interests of so large a body of teachers demanded the most careful consideration, in order that gross injustice might not be perpetrated. He assumed that it was the desire of the framers of the Bill that really efficient private schools—schools carried on in suitable buildings, with an adequate staff, and with the necessary apparatus and appliances for teaching—should not be injuriously interfered with; but how could this possibly be secured in any arrangements such as those proposed? He would take his own case as an example. He had a day school of four hundred boys, affording opportunity for due classification combined with economy in the working; the average school fee was a little over £11 per annum. The buildings were mostly new, thoroughly fitted, allowing 17½ square feet per pupil, and erected at a cost, including value of all interests, of £20 per head. The annual cost of carrying on the school, exclusive of any allowance for his own services, or interest on capital, was over £8 per boy. The quality of the work done was sufficiently attested by the results of public examinations. He would assume, for the sake of argument, that the Secondary Education Committee would probably regard his as an efficient school, at which scholarships might be held. They would, however, report that there was need for further provision for those who could not afford to pay annually £10 or £12 per head for their children's education; and the rate-supported school would be set up in his neighbourhood, giving an education fully as good as he gave, with all the most modern and costly accessories, probably at a third of the cost at which he could afford to provide it. What must be the inevitable result? Why, his scholars would be drawn off to fill the new school, while the rapid filling of the rate-supported school would be taken to prove the need of the provision that the local authority had made. At the same time it might very well happen that a necessarily inefficient school, because the fees were manifestly too low for efficiency, would hold its ground, while the efficient school was being destroyed. This result must, he thought, be regarded as demonstrable as a proposition of Euclid. Whether it was fair and just to the individual, and of advantage to the community, was another and more disputable question. He ventured to suggest whether, if legislation was to be carried out in the direction of using the rates for the provision of secondary education, it might not be found practicable to devise a scheme for the taking over of efficient schools by the local authority on conditions which would be fair to the schoolmaster who had sunk his capital and worked up his school to a state of efficiency, and at the same time result in a saving of the ratepayers' money.

The Rev. Dr. WALKER said the last speaker had dwelt on the effect of the proposed legislation, if adopted, in the case of efficient day schools in towns. He wished to point out its effects in the case of a school of another kind: viz., a properly appointed boarding school. It must not be imagined that the setting up of the new rate-supported schools in towns would not equally affect the boarding schools to which so many town boys were now sent, when a good secondary education at a nominal cost was being provided at their doors out of the rates which middle-class parents were obliged to pay. Formerly the headmaster of a well-known public school in the south of England, he was now the

principal of an equally well-known private boarding school in the north. His school buildings and appurtenances were valued at the present time at not less than £10,000; but, if they were sold for other purposes, they would not realize more than a third of that amount. This would give some idea of the loss of capital that would result from the wholesale supplanting of private schools. If any such Bill were to be adopted by Parliament it certainly ought to include a provision for the taking over of efficient schools at their full value. But beyond these considerations of the interests that would be directly affected by the proposals of the Bill, if carried into effect, he contended that the improvement of secondary education would be far better brought about by a proper system of Teachers' Registration, which would result in the exclusion of unqualified persons from the profession. This it was for which private-school masters had contended for so many years, and which had now been brought within measurable distance of accomplishment.

Mr. J. S. THORNTON thought that the writer of the paper might have brought the case of the secondary-school system of Denmark into even greater prominence than he had, as showing the practicability of combining State aid to private schools with the largest measure of individual liberty, and there was no country in Europe in which children were better trained to all the duties of citizenship. He might mention that he was not now a private-school master, and that the greater part of his work had been done in public schools.

Dr. WORMELL thought that a conference of the Teachers' Guild was exactly the right place for such a discussion as this. The universal character of the Guild was its best feature. The Guild embraced all teachers, of all grades and all classes. Much had recently been said of the unification of the profession, and he thought the first condition necessary for this unification was that each of the members which were to be united to form the whole, should be in sympathy with all the others. The private teachers would find in the Guild not only general sympathy with their work, but also sympathy especial in the present crisis, in which their existence seemed to be threatened. There could be no doubt that an establishment of rate-aided secondary schools, anywhere and everywhere, would destroy even the best. Everyone knew that the voluntary schools of the lower grade, with their share of the Imperial grant, with a broad base and complete organization, had found it very difficult to keep afloat in the presence of Board schools, with their command of the rates; and it could not be expected that, with no Imperial grant, and with a narrower organization, the private schools could survive in similar circumstances. Englishmen, however, would not willingly give up the advantages of variety in the kinds of schools open to them. The Bill before them was bad in several respects, but he could not admit that there was no need of a Bill at all. He quoted an old rhyming arithmetical puzzle of a tinker asked to make a kettle of given capacity and given proportions, and applied it to this case. They wanted the means for secondary education to be as whole and as stable as the flat-bottomed kettle. Needing the kettle they must employ the tinker, but experts in education must calculate for him the proper proportions.

Mr. E. GRUBB said that he doubted whether they could altogether rely upon the effects of open competition in the supply of education to secure the survival of the fittest. Though he was not a private-school master, he knew something of the conditions under which the struggle for existence among this class of the profession was carried on, and had seen the deplorable results of a too ready compliance with the wishes of ignorant parents. The effects of unscrupulous competition were often to be regretted in commercial transactions, much more so in education, which was a matter of national concern, and not only in the elementary stage only.

Miss BIRRELL remarked on the special function of the smaller private schools in dealing with children who, from various causes, mental or moral, were unfitted for the work and the influences of a large public school.

Miss CREAK said that, though she was the headmistress of a large public school, she was nevertheless well acquainted with private-school masters and mistresses, and was in entire sympathy with what had been advanced on their behalf. She had been rather struck with the omission of all reference to the case of the proprietary schools, which were, equally with the private schools, affected by the provisions of the Bill. The importance of this point would appear when it was considered how large a proportion of the higher education of girls in various parts of the country was supplied by the public day-school companies. What must occur to anyone acquainted with the state of secondary education, was the very low rate of remuneration for the services of the assistant masters and mistresses, considering what was required of them. Before real progress could be expected it was absolutely necessary that money resources should be found to pay adequate salaries to the teachers. Whether the funds required for this purpose should come from a better regulation of endowments, or out of the pockets of the ratepayers, was a difficult point to determine; but the need of further provision could not be questioned by anyone acquainted with the facts of the case. Another point altogether passed over was that the Bill now before the House gave County Councils the power to acquire control over all the endowed schools in the country. There were a good many present who were headmasters and mistresses of endowed schools, and she hardly need ask them whether they would approve of their schools being placed in the hands of County Councils. It must not be overlooked that this Bill touched the interests of all classes of schools, and not of the private schools only.

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THE EDUCATIONAL TIMES.

LONDON, MAY 1, 1893.

At the Conference of the Teachers' Guild held at Oxford in the third week in April, several subjects of interest to teachers were discussed; but pre-eminent among them was the thorny question of the relation of the State to secondary education, with special reference to the Bill now before Parliament, on which we commented last month.

A whole day was devoted to the discussion, which was introduced by papers in which the subject was surveyed from different points of view. Two of these papers we have thought it advisable to place *in extenso* before our readers, and they will be found amply to repay perusal, both from the ability with which the views of the writers are presented, and the practical character of their treatment.

Mr. Sadler, the University Extension Secretary, in his general survey of the conditions of the problem, apparently assumed that it was the duty of the State to take upon itself the direction and control of secondary education, that the progress of public opinion in matters educational had well-nigh allayed the old mistrust of State interference, and that the main thing to be looked to was that the necessary legislation should be carried out on right lines. The difficulties of the question were not shirked—difficulties arising from the variety of educational requirements, according to the destination in life of the children; from the danger of fettering the teacher's freedom and of suppressing the wholesome stimulus of rivalry between school and school; the difficulty of drawing the line between primary and secondary education; the still more manifest difficulty of entrusting to local authorities, elected for a great variety of purposes, and swayed by a variety of motives, political, sectarian, and economical, the regulation of our educational machinery. He gave but a very qualified approval to the proposals of the Bill, and insisted, as a primary condition of the organization of secondary education, on the establishment of a "National Council of Education," similar to that provided in Mr. Acland's Registration Bill of 1892. The first work of such a Council should, he said, be to "bring up to date the report of the Schools Inquiry Commission." This would imply the re-opening of the inquiry into the state of secondary education, which was undertaken nearly thirty years ago, and awaiting the result of such inquiry before legislation, such as that proposed in the Bill, is attempted. In this connexion, the suggestion, made by more than one of those who took part in the discussion, that a new Royal Commission should be appointed for the purpose of supple-

menting the report of the former Commission, has something to recommend it. The National Council should, Mr. Sadler thinks, include in its work "registration, inspection, general oversight, approval of examination of schools, publication of reports, the collection and diffusion of educational information, and the discharge of the duties of a court of educational appeal, especially in regard to endowments." This, it will be seen, is a pretty extensive programme, especially when we take into account the constitution of the Council, and the variety of the interests represented on it. The inclusion of the public elementary schools within the purview of such a Council, which was taken for granted by the Secretary of the National Union of Teachers in his paper on the relation of primary to secondary education, opens out possibilities, to say the least, of interference with another Department of the State, which seem to have escaped notice. The necessity of establishing a General Educational Council, to control any local authorities that might be set up for the purpose of providing secondary education, appears to have been generally recognised by the Conference; and this view entirely accords with the resolutions adopted by the Council of the College of Preceptors, and, more recently, by a Conference of the Executives of the Headmasters' and Headmistresses' Associations; though these bodies restrict their recommendation to a Council to be appointed under a Bill for the Registration of Teachers in Secondary Schools, the passing of which, it is contended, should precede any legislation of the kind proposed in Mr. Hobhouse's Bill.

Among those who took part in the discussion there was practical unanimity in disapproval of most of the essential features of the Bill; such as the entrusting the initial inquiry, and subsequent supply of what was judged to be required, to County Councils and their Committees; the merely permissive character of the representation of practical educationists on the proposed Secondary Education Committees; and in particular the absence of any provision for supervision and control of the local authority by a General Educational Council. With regard to the principle of using the rates for the supply of secondary education, no one was bold enough to hazard an opinion; though it seemed to be taken for granted that money must be provided somehow or other.

The question introduced by the Rev. the Hon. E. Lyttelton, Headmaster of Haileybury College, was more limited in its scope, and undoubtedly appealed more directly to the great majority of those present at the Conference,—viz., "The Bill in its relation to Private and Public Schools,"—the paper, however, being exclusively devoted to the consideration of its effect on private schools. Mr. Lyttelton showed the place that private schools occupy in our educational system, citing the Report of the Schools Inquiry Commission as to their special advantages, when properly conducted, for "the origination and development of new ideas in education," the stimulating effects of competition and rivalry in their work, and in other ways. He referred particularly to the vast improvement that had taken place in the preparatory schools, with which he was more directly acquainted, and rightly inferred a similar improvement in the case of the general run of private schools. But, obviously, the efficiency of private, as of public schools, would depend on the sufficiency of the resources with which they were carried on, and the expenditure in providing the means for a good education would necessarily involve a

corresponding demand on the parents, with which a certain proportion would be unwilling or unable to comply. Assuming that many or most of these schools would be able to prove their efficiency, there would still remain a certain proportion of children for whom adequate provision would be found to be wanting. Hence the certainty of the establishment of rate-supported secondary schools in the neighbourhood of the private schools which had proved their efficiency. The effect of the competition of the rate-supported school, with its new buildings, well-paid staff, and nominal fees, on the school in which a fair price was being charged for equally good education, could not be doubted, and the private school, however good, must inevitably succumb. If results so disastrous and so unmerited would demonstrably ensue from the proposed legislation, justice appeared to require that provision should be made for the taking over of efficient private schools by the constituted authorities (local or central), or for compensating those whose property was destroyed, or for subsidising the efficient private schools in order to enable them to meet the demand by lowering their fees to the point that might be deemed necessary. The difficulties attending each of these courses are no doubt very great, but can hardly be said to be insurmountable. Mr. Sadler had expressed a hope that the private schools would not be made "the Ulster of the secondary education question"; but if this danger is to be obviated, it is pretty evident that provision will have to be made for dealing with them in a more liberal fashion than that indicated in the Bill.

Mr. Lyttelton, in summing up his argument, threw out the suggestion that where gaps were found to exist in our secondary education, the demand for filling them would in the nature of things create the supply. To which he immediately furnished the answer, that those who felt the need could not afford to pay for the supply. And, indeed, it would seem that the question of the provision of secondary education at the public cost really resolves itself into compelling those who are unable or unwilling to pay the necessary price for a good education, and who are content to put up with an inferior article at an inferior price, to do what they at present decline to do voluntarily. For it is obvious that, if an education worth ten pounds a year is to be supplied out of the rates for three or four, the difference will in the long run have to be made up by the unwilling ratepayer.

This and other Conferences have clearly shown that a great diversity of opinion undoubtedly exists on the subject, and that fuller and more accurate information as to the facts is needed. This being so, the conviction is forced on us that what is more urgently required than the establishment of new schools, is the passing of such a Registration Bill as will secure at no distant date an adequate supply of properly trained teachers for secondary schools.

THE Easter Conferences are all over. The first, and perhaps the most important of them, was that of the N.U.T., held this year at Liverpool; and the most important feature in that Conference was, as usual, the President's address.

Although there have been addresses in previous years which have been more noticed by the press, yet we think there have been none containing more instruction or characterized by greater common-sense. Mr. Bowden is a practical, business-like man, and an elementary teacher to the core.

There is nothing in his address with which we wish seriously or fiercely to contend, and little to complain of, beyond a want of sympathy or of understanding as regards teachers outside his own class, in one or two matters to which we shall presently refer. The address is by no means a wail or a groan; on the contrary, it is a cheerful and hopeful melody. It admits that "the outlook for the future is more hopeful than at any former period," and with this view we entirely agree.

Matters chiefly connected with the so-called elementary schools very naturally first occupy the President's attention. He gives the National Union no easy task when he bids it "secure the introduction of the metric system, and a reform of orthography"; but, certainly, the Union might be employed on less profitable agitations. He gives it a far greater task, however, when he calls upon it to secure "the unification of our educational system." We cannot dissent from him when he vindicates the elementary teacher, and declares him the best in the world. We have no wish to contradict him when he claims for elementary teachers that "they would all just as easily pass University examinations and gain University honours as the students of Oxford or Cambridge, *if working under the same conditions.*"

Neither do we deny the right of the President and Conference to review and criticise the whole range of secondary and University education. He avowedly deals with "secondary education from an elementary teacher's point of view," and it is to the advantage of the country that it shall be seen from all points of view. Moreover, the President states that "it is chiefly in the interests of the class which has used the elementary schools that his business with secondary education has to do." "The proposals for secondary education," he tells us, "will materially affect the welfare of every elementary teacher, not only in the towns, but in every village and hamlet in the country. Hence the necessity for bringing this matter prominently before the Conference." The President's justification for the introduction of the subject is perfect. He does not approve of the Roscoe-Hobhouse Bill, but in this respect the N.U.T. is not singular. In none of all the conferences of teachers held this Easter has a single voice been raised in support of the Bill as it stands. He followed the usual custom, and shows that outside the elementary system the educational world is without form and void, and darkness is on the face of the deep. Whence is the light to come? "There is," says the President, "an unwise overlapping of interests, a large waste of educational power, and a tremendous loss of private and public money. Is there no means of bringing about such a union of all these varied interests that all this shall be prevented? Is there no statesman bold enough to propose, and strong enough to carry through, a measure for the unification of our educational system? In my opinion, the necessity for the creation and organization of a secondary system of education affords the opportunity desired, and, if allowed to slip, or if an improper course be taken, and more tinkering is effected by the addition of another brand new authority, it may be generations before the state of chaos is brought to an end." To the question, Is there no statesman bold enough to propose, and strong enough to carry through, a measure for the unification of our educational system?—we answer, alas! none. But we have the N.U.T., and its President has sketched for us the necessary Bill, and embodied it in the address.

This scheme must be admitted to contain all the most advanced suggestions of recent days. A Minister of Science and Education is to have control over every branch of education in the country; the Minister of Education is to be assisted by a representative Educational Council for the purpose of the registration and certification of teachers and schools. District Boards of Education are to be elected solely for the purposes of education, and to consist of representatives of the ratepayers, of the various classes of schools, and of the teachers of the district. They are to have control over the whole educational machinery of the district, and are to maintain schools of *every kind*, and act under the supervision of the Education Department.

So far the President's address is perfect, but there are other points of view than his, and there are two or three oversights which we very modestly venture to point out. The levelling notion that all the children of peer and peasant alike should be driven through the elementary school, and passed on only according to ability—so that in the new order of things "we should see children of the same educational status receiving their instruction in the ordinary elementary school, and passing on step by step through the various stages, irrespective of their social status, to such a height as their abilities or ambition prompted"—is beyond us. It is what is commonly called a political view, and with politics we have nothing to do.

But towards the secondary teachers of the country the President is not always just. He says middle-class education has fallen into bad hands. "Where there was a possibility of making a dividend, limited liability companies have in many cases started schools; private individuals, without pretence to qualifications in many cases, have opened select academies, and have received the parents' money, giving no adequate return." It is an undeserved reflection upon the Public Day School Companies, all proprietary governors, and all independent heads of preparatory schools who are "owners and occupiers," to say they have *received the parents' money, giving no adequate return.*

Again, it is not the fault of the teachers that those of endowed and secondary schools are marked on the outside of the enclosure of the elementary teachers. Forces beyond their control have classified schools and teachers. Some of these classes have authority only within their own group, and the President makes a very serious mistake when he assumes that any attempt on the part of these classes to improve the state of things within their own circle of influence is necessarily an offence against his clients, and a hindrance to unification. Even if it were such a hindrance there is something worse, namely, the avoidance of ameliorating action from fear of seeming to ignore those who are outside the sphere of that action. Other sections of teachers are not always as free as the N.U.T., and are not so able to meddle with what does not immediately concern them, without damaging what belongs to their own special care. The President fails to recognise this, and misrepresents the action of those who ask for a registration of teachers engaged in secondary schools, where, even according to the President's own showing, there is the most crying need for registration. This heresy appears in the following words:—"In the present session of Parliament a Bill, promoted by a section of teachers who have, in my opinion, not by any means as good a title to be called teachers as ourselves, has

again been introduced into the House of Commons. From registration under its provisions we are again excluded, and, if allowed to become law, it will be one of the greatest barriers to the unification of our educational system that could possibly be raised." Now it is not a question at all of "a title to be called teachers," but of a right to be reckoned teachers in secondary schools; and there is no question of exclusion, of opposition, or competition, in the whole matter.

There are lines in existence across the profession, no matter by whom they have been drawn. Some of them ought to be removed, but for ever it will be found that different parts have different functions. One of the first conditions for the uniting of the members having different functions into one body, is that there shall be sympathy and harmony amongst them. It must not be assumed that there necessarily exists antagonism amongst them, or that any attempt of one section to improve itself is an act of war upon another. It is not the case that to strengthen the arms is necessarily to weaken the brain, or that to develop the chest is to cheat the stomach. An improvement of one part is a strengthening of the whole.

It is our opinion that one of the lines to be removed is that which separates off so-called elementary teachers. Just as in the medical profession the specialist for the diseases of children is as renowned as the specialist for the infirmities of age, the good teacher of the lowest class of a school or of the lower school is as worthy of honour as an equally good teacher of the highest class of a school or of the highest college. When all teachers shall be required to possess both academical standing and also a special professional qualification, the proof of the possession of the combination securing, as a matter of course, registration and a licence to teach, then the Government certificate, as at present required, will be unnecessary, and, at the same time, the bar-sinister which Mr. Bowden sees on our escutcheon will be removed.

WE should like to call the attention of our readers to a Society which, for twenty years past, has been doing good work on very small means, and which still does good work on an income still very small. We refer to the Froebel Society, and if anyone asks for an example of work in which the Society has played a considerable part, we will point to Circular No. 322 to the inspectors of infant schools, and to the Revised Instructions to inspectors of schools, recently issued, from which we quote in another column. And we will also add that the certificates issued by the Society, in conjunction with the Bedford Kindergarten Company, are the only certificates of the kind universally accepted by experts, and are recognised by the Education Department as qualifying assistant teachers in infant schools. But of these presently.

The Froebel Society was founded in 1874 by Fräulein Heerwart, Miss Doreck, Miss Bishop, Madame Michaelis, Miss Manning, Prof. Joseph Payne, and others, "for the purpose of promoting co-operation among those engaged in kindergarten work, of spreading the knowledge and practice of the system, and of maintaining a high standard of efficiency among kindergarten teachers." It obtained articles of association in March, 1891. The persons above-named formed the first Council, with Miss Doreck as president and Miss Manning as honorary secretary. The Council was soon

after strengthened by the accession of Miss Shirreff—who became president on the death of Miss Doreck in 1877, and has remained president ever since—of Mrs. William Grey, Miss Mary Gurney, and other prominent educationists. The Society almost at once began practical work by instituting courses of lectures at the College of Men and Women, Queen's Square; and in 1876 started its certificate examination for teachers. In 1879 it established a training college in Tavistock Street, Fitzroy Square, which in 1883 became the kindergarten department of the Maria Grey Training College. Our readers will remember that in 1884 an International Educational Conference was held in London in connection with the Health Exhibition, and how, under the auspices of the British and Foreign School Society, aided effectively by the Froebel Society, Froebelian principles and modes of education obtained a very prominent position, Lord Reay, the president of the section, being constantly present, and the Prince of Wales making a special point of attending one of the practical demonstrations.

In 1887 the National Froebel Union was formed, for examination purposes, by the Froebel Society and the Manchester Kindergarten Association, joined in 1889 by the Bedford Kindergarten Company. The examinations of the Union are now held in London and six other centres. It is interesting to note the rapid growth in the number of candidates for certificates. In 1887 there were 72 entries, in 1889 these rose to 169, in 1891 to 231, and in 1892 to 304, and this year they will probably be not far short of 500. If for no other reason than its share in this work, and its careful inspection of kindergartens, the Society seems to us to deserve the hearty support of the public. But the Society does much other work in the way, for instance, of annual conferences of teachers and trainers, and in the giving of lectures in London and provincial towns throughout the year. It would do far more had it the means; but kindergarten teachers are very poor, and its members mainly consist of these. If it is urged that the Society should draw means of support from the examination receipts, the answer is that these at present do little more than cover current expenses, and that the next move is much more likely to be a reduction of fees than a distribution of profits. When we mention that the fees for the higher certificate amount to four guineas, and may in some cases amount to five guineas, it will be seen at once that some reduction will, ere long, be necessary.

We have but touched very briefly here and there on the work of the Froebel Society, but we hope we have done so sufficiently to prove to our readers that the Society deserves the support of the public, for whom it works, and, indeed, of all teachers who are interested in the spread of sound educational principles. The number of subscribers is about 260; they should be double that number. Donations, we believe, are not refused, however small. The office of the Society is at 12 Buckingham Street, Adelphi, W.C.

REVIEWS, NOTICES, &c.

Methods of Teaching: a Practical Guide to the Schoolroom. By John Wilson, M.A. (T. Nelson & Sons.)

The author, whilst offering this work for the acceptance and use of the teaching profession generally, intimates that it is especially intended for the unsuccessful and the inexpert, and certainly no fault can be found with him on the ground of want of condescension in this respect. The youngest pupil-teacher

may obtain from it assistance in teaching any subject which falls within the limits of an elementary school education. But it is doubtful whether teachers of skill and experience will find it of much value. We have not met with anything in its pages which is particularly new or striking, and to some of its statements reasonable exception may be taken. The work, containing altogether upwards of four hundred pages, is divided into ten chapters, which deal consecutively with Reading, Writing and Spelling, Composition, Arithmetic, Grammar, General Intelligence, Memory, Geography and History. In the chapter on Composition there is a somewhat humorous description of the way in which that subject should *not* be taught. Passing on to the other side of the question, the author continues:—"Like most other subjects, composition should be taught by the aid of the blackboard. The value of teaching through the eye cannot be too strongly urged. Without a board, intelligent training in sentence-making is practically impossible. This being the case, it is most essential that the scholars be arranged *so as to have a good view of the board*," &c. The italics are ours. The phrase so marked occurs again and again throughout the book, almost *ad nauseam*.

In connexion with composition, the author makes some remarks on "the main features of good punctuation," and here is his model sentence: "When the fish, which we caught, had been taken out of the water, it leaped about, till at last it died." This strikes us as being over-punctuated. Surely, punctuation should be sparingly used, and only when necessary to render the sense of a passage perfectly clear. The chapter on the teaching of arithmetic enters fully into the details of every stage. Particular importance is attached to Practice, which is described as "a beautiful rule." The next chapter treats—and very fully—of grammar. At the outset of his remarks the author somewhat perplexes us. "The English language," he writes, "is capable of being studied in at least two distinct ways. It may be dealt with in its constituent words, the study of the nature and relations of which is popularly called 'parsing,' or it may be considered in its groups of words expressive of the thoughts of the speaker. This may be called the analytical aspect, in contradistinction to the other, which is synthetical." Parsing "synthetical"! Surely it is but analysis more closely applied. There is occasionally in this part of the work a lack of clearness and precision of definition and explanation. An adjective is described as a word added to a noun to "limit" its meaning, and the pupil is at the same time taught to regard it as an "enlargement" of the noun. Then this definition is very slipshod: "A preposition is put before a noun or a pronoun *to show the relation of one word to another*." The sentence "The bird on the wall was shot" is given for analysis, and the question arises, what is "on the wall"? It is clear "that [we again quote the author's own words] 'on the wall' is not an adverbial adjunct of 'was shot.' This being settled, point out that it is a phrase, having the preposition 'on' in it, which indicates the relation of 'bird' to 'wall,' and not of 'was shot' to 'wall.' Hence it is a *prepositional phrase*." The author concludes his chapter on grammar with the following excellent advice:—"The language you use should be a paragon of excellence. Depend upon it that nothing will tend so much to make good English speakers and writers as your own diction, which, while it is simple and unaffected, should be grammatical in expression, graceful in phraseology, and altogether a fit model for your pupils to imitate."

The book, as a whole, contains a great deal of useful matter, but it is unequal in style, and, as we have shown, not always free from obscurity.

Introduction to Physiological Psychology. By Professor Dr. Ziehen, of Jena; translated by C. C. Liew and Dr. Otto Beyer. (Introductory Science Text Book. Sonnenschein.)

The translators have done well to mention in their preface that Professor Ziehen's work is of assistance to the teacher, as well as to the physician of nervous diseases. They might have added that the course of lectures, of which this text-book forms the summary, is given by Dr. Ziehen from time to time to German schoolmasters. The teacher, however, will be disappointed if he expects to find any direct reference to pedagogics. The author's aim is simply to tell us what physiological research has to say with regard to the relation of mind and body, and, since a true psychology is bound to begin at this standpoint, it becomes very necessary to receive full and accurate teaching from the physiological side, before we proceed to consider purely mental phenomena. The book before us will only be of value to teachers who are already interested in psychology, and who are anxious

for further light. Fortunately the number of such teachers is increasing, and it would increase more rapidly if our English psychologists would take more trouble to expound their science for the teacher's benefit.

Beyond its use as a supplementary aid to pedagogics, the present work will be of direct service to students of medicine; with the exception, indeed, of Ladd's "Physiological Psychology" (an American book of a somewhat unsatisfactory nature), this is the only account of the subject in English, and should be of special value for honour candidates for the London M.D. The author's researches have mainly been conducted as a physician in lunatic asylums, and his results suggest to the teacher the value of studying *abnormal* cases, which present themselves continually in school practice, as an aid to pedagogic theory.

The interest of the book will be increased to the English student by the fact that Professor Ziehen's doctrine "conforms closely to the English psychology of association." He holds that "the great problem of physiological psychology consists in the production of the many different forms of thought, including even the most complicated demonstrations, all to the simple ideation, or the association of ideas, and its laws." Fortunately, with his sympathy for English psychology, the writer has also found himself in sympathy with the English clearness of style, and his book, both in the original and in the translation, forms a pleasant contrast to the more usual style of German philosophic writing. The translation is a careful reproduction, and the one serious difficulty, that of transferring the technical terms of German to English psychology, has been on the whole successfully met.

A critical review of the more technical scientific parts of the book may be here dispensed with, and belongs, perhaps, rather to the medical than to the educational press. We recommend it to the English teachers as a safe and cautious guide in the observation of the phenomena offered by the relation of mind and body—observations which the inquirer *must* make before he can really understand the meaning and purpose of psychology.

The Universal Atlas. Containing 117 pages of Maps and an Alphabetical Index of 125,000 Names. Published for the Atlas Publishing Company, Limited (Managing Director, H. O. Arnold-Forster, M.P.), by Cassell & Co.—The *Universal Atlas* is based upon the great work known in Germany as André's "Hand Atlas," the first edition of which appeared in 1885. The work then contained ninety-six pages of maps and a voluminous index. This was soon followed by a second and enlarged edition; while a special edition of 50,000 copies, containing some sixty maps, was prepared for the French market. The excellence of the work was attested by the enormous sale it had in Germany. The Atlas Publishing Company, Limited, was formed to give the English-speaking public an edition in their own language, and in a form specially suited to British requirements. The publishing of the Atlas was entrusted to Messrs. Cassell & Company, who issued it in monthly parts, which have had a large and steady sale, but the completion of the work in volume form now gives an opportunity of appreciating the value of the Atlas as a whole. In preparing the work for the English market it was, of course, necessary to make an entire transformation of the German original. The German names and explanations were unintelligible to many; the heights, depths, and distances were expressed in foreign denominations. The whole of the maps, large and small, one hundred and seventy-four in number, were entrusted for translation to Mr. W. J. Turner, F.R.G.S., who has performed his task with a scientific accuracy which leaves nothing to be desired; he has also prepared the voluminous index. In the Oriental maps the spelling recommended by the Royal Asiatic Society has been adopted. Unfortunately, no regular canon of spelling has as yet been universally recognised by geographical authorities for the rest of the world. In general maps the accepted English form has as a rule been adopted: for instance, in Map 13 (Europe, General Map) Leghorn and Venice are given as being the ordinary English forms; while in Map 61 (Italy) the same places also appear in their Italian forms as Livorno and Venezia. So also in Map 27 (France, N.W.) the English Channel is also shown as La Manche, and the Straits of Dover as the Pas de Calais. In the same way in countries where two languages are used, the principal names are given in both forms. Thus in Map 31 (Belgium) the two names, Liège and Lüttich, Antwerp and Anvers, Ghent and Gand are given. A number of very valuable additional maps have been specially prepared for the *Universal Atlas*. Among

these may be mentioned the fine four-page map of England, the double-page map of Scotland, the four-page map of India and Burma, and the two-page map of the Dominion of Canada. In the preparation of the new plates, the latest point of geographical information has been reached and utilized. In this respect the splendid maps of Africa have a peculiar interest. The Atlas is very clear, for instance, on the following subjects. (a) The whole series of questions arising on the Afghan and Russian frontiers. (b) The recent Russian aggression on the Pamirs. (c) Recent mountaineering exploits and explorations in the Himalayas. (d) The Newfoundland Fishery dispute. (The limits of the French Shore will be found clearly marked on the Newfoundland map.) (e) The Chilian and Peruvian War. (f) The whole series of African questions in Mashonaland, Dahomey, Uganda, the Soudan, the Congo, Morocco, &c. (g) The recent expedition to Greenland, &c. The work is published complete in one volume at 30s. net, in cloth; or 35s. net, in half-morocco, gilt top.

Oral Teaching in Infant Schools. By James Bailey. (Cr. 8vo, pp. 156; price 2s. 6d. W. H. Allen & Co.)—In the face of the instructions recently issued to inspectors of infant schools, this book has a quaint, Old-World, almost antediluvian appearance. It aims at supplying pupil-teachers, students in training, and junior teachers generally, with notes of object-lessons and hints for the construction and delivery of such. The unsatisfactoriness of the book is not wholly due to the author; at least half of the blame must rest on the Code. An object-lesson without objects ought, on the face of it, to be manifestly a contradiction in terms; and yet here we have object-lessons on such things as the whale, the camel, the lion, &c., in the worst style of a wholly mistaken Pestalozzianism. Under the same head, too, we must class the futility of so many of the results. Here, for instance, is the result of a lesson on cups and saucers: "Cup—round, deep, has handle, rim. Saucer—round, flat; has rim. Both are smooth, shiny, hard, brittle. Made of soft clay, flint; by shaping, baking, glazing. Used to hold tea, milk. They must be used with care." Angels and ministers of grace defend us—or, rather, the little children! Here is another on chairs: "A chair—for sitting on. Parts—back, seat, legs. Kinds—kitchen, strong; parlour, pretty; bedroom, light; armchair, easy; children's chair, small." We trust that Mr. Bailey is not really well-informed when he tells the children (p. 56) that we get beef from a dead cow. It is possible, but not pleasant to think of. Nor are we very grateful for the information (p. 151) that "glass is made by melting things together." In short, it is quite plain that, in the author's mind, objects are only connected with oral lessons for the purpose of giving one something to talk about, and need not really be present; and that when they are present it does not matter what one observes, or what the resulting information is. It certainly was high time that Circular No. 322 should make its appearance. But, surely, teachers ought to have learnt already that object-lessons cannot be given without objects; and that such lessons are either exercises in observation, or in observation and inference, or in observation and constructive imagination. But enough—we certainly do not recommend this book.

History of English. By A. C. Champneys, M.A. (Cr. 8vo, pp. xiv., 414; price 7s. 6d. Percival & Co.)—Mr. Champneys describes his book as "a sketch of the origin and development of the English language, with examples, down to the present day." Were we called upon to discuss his work as a serious contribution to the science of language, we should probably have to find fault both with the contents and with their arrangement, and should certainly have to show how far the phonetics fail to satisfy us. But the author only claims to have written an introduction to the subject, and gives as his excuse for publishing it that, having tried at various times to teach different parts of the subject, he thought that the experience so gained might perhaps enable him to present it in such a way as should be more or less intelligible and interesting. In other words, he writes as a schoolmaster and an amateur, and not as a specialist. He compiles from such authorities as are ordinarily accessible, and makes no attempt at originality. He must be judged by his choice of topics, his manner of expounding them, and the clearness and interest with which he writes. From this point of view, the book is a satisfactory piece of work, and will undoubtedly be found very useful by University Extension lecturers and their students. We should not, it is true, ourselves have chosen quite the same topics—we should, for instance, have said nothing about the primitive Indo-European language, and next to nothing about dialects in and before the fourteenth century—and the order in which we should have treated the topics would have been some-

what different. In general, we should have assumed the present state of things to be known by the student, and have worked back from that, and not wholly from the past to the present. But at the same time we recognise that there is much to be said both for Mr. Champneys' choice of topics and for their order. He certainly shows that he has studied his subject, and that he is interested in it; and his mode of exposition is such as should impart that interest to the student. He knows how his points will strike the ordinary learner, and is at great pains to make them as clear as possible, and the plentiful supply of passages by way of illustration is a very good feature of the book. In short, we feel that we can honestly recommend this book to our readers, though not with quite as much enthusiasm as we should have liked. Taken altogether, there is very much in it which is well chosen and well put.

The Kelt or Gael: his Ethnography, Geography, and Philology. By T. de Courcy Atkins. (Cr. 8vo, pp. 96; price 5s. Fisher Unwin.)—We shall, perhaps, best give our readers an idea of the general tenor of this learned and clever, but eccentric little book, by quoting a few of its statements. The italics are our own. "The University man of the present day learns the basis of his own English language, *three-fourths of which is Keltic*, through the Latin and Greek *varieties*, instead of going to the fountain-head, still flourishing, of Welsh or Irish" (p. 24). "*The structure of English is Keltic*, and the German *element* in it has conformed thereto" (p. 90). "I submit that I have herein proved not only the ethnography, geography, and philology of the Kelt or Gael, but also that *Latin and Greek are Keltic dialects*." If Mr. Atkins had been a little more moderate in his claims, his book would probably have attracted more attention. One cannot deal with it satisfactorily without being at the pains to show how full it is of special pleading; and the conclusions are too extravagant to make this worth one's while. But even a mere glance will show any reader that the word-lists given—even if they were completely correct—prove nothing more than the presence of a Keltic element in the languages mentioned, and the probability of some small relationship between Keltic and them. It seems to us a great pity that so much learning should be forced into the service of what stands self-convicted by its own exaggeration.

OUR LIBRARY TABLE.

Tacitus: Histories, Book I. Edited by F. G. Plaistowe, M.A., and H. J. Maidment, M.A. (W. B. Clive.)—The introduction to this edition contains a life of the historian, sketches of the Imperial Government, of the army, and of the history of the period. The notes throw light upon the translation of difficult pieces. An index of proper names, and an appendix on some typical peculiarities in the grammar of Tacitus, are given. The book seems well suited for the class of students for whom it is intended.

Elements of Physiography. Adapted to the requirements of the Science and Art Department. By Hugh Dickie, LL.D. (William Collins, Sons, & Co.)—As an introduction to the study of science, the study of physiography cannot be too highly insisted upon. The work before us will supply the student with all necessary information upon the subject to the standard of the elementary stage, according to the syllabus of the Science and Art Department. The numerous maps and illustrations deserve a word of praise.

The Food of Plants. An Introduction to Agricultural Chemistry. By A. P. Laurie, M.A., B.Sc. (Macmillan & Co.)—The seven chapters of this little shilling manual furnish a complete introduction to the chemistry of agriculture, and require very little previous knowledge of chemistry on the part of the pupil. The various topics dealt with are: the plant and water, the food obtained by the plant from the soil, the nature of the soil, the substances of which a leaf is composed, how plants obtain food from the air, the composition of the air, and the preparation of carbonic acid gas, and the nitrogen required by plants. All the experiments are simple, and should be performed by the student himself.

The New Dictation Book, for Standards IV. to VII. (Blackie & Son), contains a series of one hundred and eighty-two exercises for dictation, carefully graded. Many of the exercises have been set by H.M. Inspectors at recent school examinations.

Exercises in Euclid, Graduated and Systematized. By William Weeks. (Macmillan & Co.)—The widely-felt want of a well-arranged collection of geometrical exercises, unaccompanied by solutions, and published apart from the text of Euclid, is supplied by this collection of exercises. The system of arrangement is the distinguishing feature of the work, and the discreet use of various types throughout will afford great assistance to pupil and teacher.

The New Code (1893-4). The N.U.T. Edition. By J. H. Yoxall and T. A. Organ, B.A. (Alexander & Shephard.)—The experts of the National Union of Teachers deserve the thanks of all teachers and managers of schools for editing an annotated edition of the Education Code. Together with the text of the regulations of the Education Department, the new revised instructions to inspectors, and the drawing regula-

tions, this edition contains many other regulations, circulars, and forms, quotations from Acts of Parliament, judicial decisions, and Departmental letters. For the convenience of pupil-teachers, students, and others, the syllabus of the Certificate Examination, 1893, the terms of qualification for Art and Science certificates, and particulars relating to day and residential training colleges, are included.

Cornelius Nepos. Select Lives. Edited by H. N. Kingdon, M.A. (Percival & Co.)—The feature of this edition is the excellence of the notes. All the difficulties that are likely to meet a young beginner in Latin translation are well explained.

Selections from Byron's Child Harold's Pilgrimage. Cantos III. and IV. With Introduction and Notes. By G. D. A. Morshead. (Percival & Co.)—These selections have been linked together by a short prose summary of the general effect of the omitted stanzas. The introduction is sensibly written, and the selection merits praise.

A New Dictionary of the Portuguese and English Languages, based on the Manuscript of Julius Cornet. By H. Michaelis. (Simpkin, Marshall, & Co.)—This dictionary completely eclipses the attempts of Valdez, Vieira, and Lacerda. The compiler has had access to all the important sources, and has produced a dictionary more complete, in words as well as in idioms, than its predecessors. The feature of the work, and one that cannot fail to add to its usefulness, is the inclusion of an immense number of technical terms used in commerce and industry, in the arts and sciences, and a supply of modern and hitherto unregistered words gleaned from reviews, newspapers, and conversational books. In dealing with pronunciation, the editor has wisely confined himself to the indication of the tonic accent.

Arnold's English Readers. By M. T. Yates, LL.D. (Edward Arnold.)—This new series of reading-books is adapted to the latest requirements of the Education Department. The series consists of a book for each of the Standards, and, in addition, two primers dealing with vowel sounds, and an Infant Reader containing little stories in prose and rhyme. They are novel, entertaining, and practical, well illustrated and well printed, with new lessons, notes and meanings, word exercises, script, summaries, dictation, grammar and composition exercises, and poetry for recitation. The series is undoubtedly one of the best that has appeared of late.

(1) *The Oresteia of Aeschylus, translated into English Prose by Lewis Campbell.* (2) *Cicero de Oratore, Book I., translated into English by E. N. P. Moor, M.A. (Methuen & Co.)*—These two books belong to a series of classical translations, and are, in binding, paper, and general appearance, a credit to the firm from which they emanate, as the translations are a credit to the two scholars who are responsible for them. Each has a well-written and helpful introduction, and Professor Campbell has added a few notes on difficult points in the three dramas of the Aeschylean Trilogy.

The Study of English Literature. By Sidney Lee. (Printed for private circulation.) This is an address which was delivered by Mr. Sidney Lee at the inaugural meeting of the Toynbee Literary Association at Toynbee Hall in February last, and is now printed at the request of the Committee. Mr. Lee does not write as an experienced teacher or as an educational specialist, but rather as a literary man who loves his subject and feels how much it has done for him, and would gladly have others obtain the same benefits. He stimulates rather than guides. His taste is sound and catholic, his style bright, and his choice of topics good. We agree with him very heartily in the view that true patriotism is far more likely to be produced by an enlightened study of English literature—and we may add English history—than by the waving and exhibition of Union-jacks. The address is well worth reading by those who can procure a copy.

The Visions of Van Rumpel; or, The Chanting of the Parts of Speech. A Grammatical Cantata. (O. Neumann & Co.) The fun of Van Rumpel's broken English and the attempts of Dr. Grammar and the Parts of Speech to make his errors clear to him, is not perhaps of a very high order; but it is simple and bright enough for its purpose, as is also the accompanying music. Teachers who indulge in such recreations might do far worse than give this cantata a trial. It would be out of place, we suppose, to criticise the views of grammar set forth by the author; but we may say that in the main they are sound, except for the heresy that you explain the nature of a thing by giving the derivation of its name—a heresy unfortunately all too common with grammarians.

Text Book of Physiology. By J. M. Gregor Robertson, C.M., M.A., &c. (Blackie.)—We are glad to see that this generally well-written little book has reached a second edition. Without being by any means startlingly original or attractive, it is readable and comprehensible. We have especially looked into the treatment of some of the particular difficulties of the physiological teacher—the chemical preliminaries, the beginning of the histology, and the coarse anatomy of the brain. The former two are thoroughly well done, but we doubt if really clear ideas of brain structure are to be gained from what is given here. The mental physiology, however, is good so far as it goes. The future medical student and the teacher who aspires to a diploma will find this work an excellent introduction to this subject, and it will also be found useful in the upper forms of schools and in Science and Art Department evening classes.

NEW EDITIONS.

The Field Naturalist's Handbook. By the late Rev. J. G. Wood and the Rev. Theodore Wood. (Cassell & Co.)—In the fifth edition of this well-

known and reliable work much information, hitherto unpublished, has been inserted. In the moths alone upwards of a thousand blanks have been filled.

The Student's Guide to the University of Cambridge. (Deighton, Bell, & Co.)—The revision of this volume has practically involved the rewriting of several of the sections. Since the publishing of the last edition the scope of some of the examinations has been altered, and a new tripos—for mediæval and modern languages—has been instituted. In its present form the book supplies a trustworthy guide to students.

Cassell's English Dictionary. Giving Definitions of more than 100,000 Words and Phrases. 1,100 pages, extra crown 8vo, in red and green cloth.—This cheap edition, price 3s. 6d., is so cheap that it may be introduced into schools, and is the best English dictionary at the price, and for the purpose, yet published.

Algebraic Factors, classified and applied. By J. Abbot Jarman. (Macmillan.)—Factorizing is specialized here as far as it can be in elementary algebra. More than one-third of the book consists of examination papers of the College of Preceptors.

Elementary Physiography. By Richard A. Gregory. (Joseph Hughes.)—The advance of science, the readjustment of the subjects to be included under the title of Physiography, and the changes in the regulations of the Department of Science and Art, are sufficient grounds for the preparation of a new text-book on this rapidly changing subject.

Bacon's Chart of the Metric System of Weights and Measures. (G. W. Bacon.)—This is a large glazed chart, about four feet square, containing tables and diagrams of the Metric System. It is accompanied by a useful handbook, and is the clearest diagram on the subject we have yet seen.

Elementary Geography. By James Clyde, M.A., LL.D. With Appendix on Sacred Geography, and Five Coloured Maps. (Oliver & Boyd.)—Dr. Clyde has subjected his *Elementary Geography* to a very extensive recast for the twenty-fifth edition. The speciality of this edition is the prominence given to the industries and commerce of the world, particularly in their relations to the British Isles and Colonies.

Cambridge Texts: Livy. Books I., II., and V. With Notes by J. Prendeville; re-edited, and partly re-written, with a revised text, by J. H. Freese, M.A. (Deighton Bell.)—The number of editions through which Prendeville's *Livy* has passed is sufficient proof that it has been found adequately to meet the requirements of those for whose use it was intended. Mr. Freese, however, has added considerably to the usefulness of these three books, by making alterations in text and orthography, and additions and omissions in the notes.

Latin Course, Second Part. By A. M. Cook, M.A. (Macmillan.)—In this enlarged edition "The Story of Joseph" has been removed to make room for more important material. The book now forms one of the best of introductions to common Latin constructions.

A History of English Literature for Junior Classes. By F. A. Laing. (William Collins.)—In this third edition the list of present-day writers is more comprehensive than formerly, and alterations which the lapse of time has rendered necessary have received due attention. A special feature of the book as now published is the introduction of illustrations taken from photographs.

Johnston's Catechism of Agricultural Chemistry, from the Edition of Sir Charles A. Cameron, M.D., revised and enlarged by C. M. Aikman, M.A., B.Sc. (Blackwood & Sons.)—This is described as an entirely new edition, necessitated by the great advance which has been made in the knowledge of the subject during the last few years. The editor has brought this information thoroughly up to date, and has carefully revised every question and answer. Our only regret is that he has not thought fit to do away with the old-fashioned plan of question and answer.

"Excelsior" Memory-Map Atlas. (G. W. Bacon & Co.)—We are glad to see the sixty striking maps and diagrams collected and published in atlas form.

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending April 30th, 1893.

- Adeney's (W. F.) Ezra, Nehemiah, and Esther, cr. 8vo, 7s. 6d.
- Bonar's (J.) Philosophy and Political Economy, 8vo, 10s. 6d. cl.
- Bréal (M.): L'Enseignement des Langues vivantes, 2fr.
- Brink's (B. Ten) History of English Literature, translated by W. C. Robinson, Vol. 2, cr. 8vo, 3s. 6d. cl.
- Cambridge Companion to the Bible, cr. 8vo, 3s. 6d. cl.
- Coleridge's (S. T.) Poetical Works, edited, with Introduction, by J. D. Campbell, cr. 8vo, 7s. 6d. cl.
- Compayré's (G.) Abelard and the Origin and Early History of Universities, cr. 8vo, 5s. cl.
- Disney's (H. W.) The Law relating to Schoolmasters, 2s. 6d. cl.
- Easton's (Rev. J. G.) A First Book of Algebra for Young Beginners, 12mo 2s. 6d. cl.
- Eminent Persons: Biographies reprinted from the "Times," Vol. 4, cr. 8vo, 3s. 6d. cl.
- Euripides' Electra, with Introduction, Notes, &c., by C. H. Keene, 8vo 10s. 6d. cl.
- Faraday's (M.) Experimental Researches in Electricity, 3 vols., 8vo, 48s. cl.
- Friedel (C.): Minéralogie générale, 10fr.
- From Hospital Ward to Consulting Room, by a Graduate of the London University, cr. 8vo, 3s. 6d. cl.
- Froude's (J. A.) History of England, Vols. 5 and 6, 3s. 6d. each.
- Geldard's (C.) Statics and Dynamics, cr. 8vo, 5s. cl.

Herford's (W. H.) *The Student's Froebel: Part 1, Theory of Education*, cr. 8vo, 2s. 6d. cl.
 Hymns and Chorales for Schools and Colleges, edited by J. Farmer, 18mo, 2s. cl.
 Lachlan's (R.) *Elementary Treatise on Modern Pure Geometry*, 8vo, 9s. cl.
 Lock's (G. H.) *Key to J. B. Lock's Elementary Statics*, 8s. 6d.
 Shakespeare's *As You Like it*, edited by T. Page, cr. 8vo, 2s.
 Thompson's (E. M.) *Handbook of Greek and Latin Palæography*, cr. 8vo, 5s. cl.
 Universal Atlas, folio, 30s. cl.
 Vauchez (E.): *La Terre*, 2 vols., 15fr.
 Vogel's (Dr. E.) *Practical Pocket-Book of Photography*, illustrated, 12mo, 2s. 6d. cl.
 Vuillard (A.) and Armstrong's (P. J.) *The French-English Vade-Mecum*, cr. 8vo, 2s. 6d. cl.
 Waldo's (F.) *Modern Meteorology*, cr. 8vo, 3s. 6d. cl.
 Weeks's (W.) *Exercises in Euclid*, 18mo, 2s. cl.
 Williams's (J. W.) *Aids to Biology*, 12mo, 2s. swd.

CONFERENCE OF THE PRIVATE SCHOOLS' ASSOCIATION.

THE members of the Private Schools' Association have just held their Easter Conference at Winchester, and it was acknowledged by all those who were present to be a most successful meeting. The visit was made most pleasant by the exceeding kindness and great courtesy shown to the party by all those in authority at Winchester and in the other places visited.

The Association has lately extended its membership considerably, and the members who were present at the meeting came from various parts of England. Over seventy members have been elected during this year, and two local branches have been formed, at Liverpool and at Southampton.

On the evening of Wednesday, April 19th, a discussion was held, on the Bill for Organizing Secondary Education, now being brought in by Mr. Hobhouse, Sir Henry Roscoe, and Sir John Lubbock.

State Secondary Education and Private Schools.

Mr. J. V. Milne, in the course of his paper, said that the Teachers Registration Bill was meant to improve the condition of the private teacher, but the Bill to Promote Secondary Education was calculated to destroy all private effort. He did not know how good a prophet he was when in January of last year he declared that "the next Liberal Government might attempt the destruction of private enterprise by granting large sums for secondary schools under Government control, or by giving County Councils the power of levying rates for this purpose." The *insincerity* of the Bill was to be noticed. No one really believed that the halfpenny rate, in conjunction with the other sources of income named in the Bill, was sufficient for any other purpose than to make a beginning. The steps are clear—make a start, get into debt, borrow money, and go to Parliament for increased powers, so that the money already spent may not be lost, and all [the fine schools, with expensive buildings, staff, and equipment, may not be endangered. Educational criticism was unanimous, that such a Bill could not be worked. It was strange that those who prepared the present Bill should have shown so little appreciation of the abundant criticism that Mr. Acland's Bill called forth. Practically they have made but one concession to private schools—that they may compete for scholarships, and that the scholarships of the Bill may be made tenable at their schools. And this one concession is permissive only. The local authorities may do these things, but they need not, and they may make their own conditions, which may make the concession a farce. The *Journal of Education* used the right epithet when it called this a *tentative* Bill. There is no evidence whatever that the consequences of such a Bill have been thought out. It is a sheer experiment.

Mr. Milne contended that private teachers were not only educationalists, but citizens. As educationalists, their opinion was but an opinion; but as citizens they had inalienable rights. The supporters of the Bill were not sincere in the expressions of their goodwill. They declared that it was "not their wish that private schools should be over-ridden by new public schools"; but, on turning to the Bill, there were absolutely no measures taken to carry out these creditable sentiments. The reply to all such speeches is: Put them into your Bill. The advocates of the Bill are not frank. The Bill means more than appears on the surface; their object is not fully declared. Mr. Mundella said, some years back: "If they were to have free education, they must not have it for a single class only." There is a strong suspicion that free secondary education is the real goal of the present efforts. They will not meet the opposers of their Bill. They hold "conferences," where they alone may speak, and, if Sir H. Roscoe by mistake attends a meeting of teachers, he is shocked when questions are asked. He said he "would not have come to discuss the provisions of a Bill with persons opposed to it, or who had not made up their minds with regard to it." There were grounds for fearing that the scholarship clause was the sandbag battery of the private teachers. They were fighting for a position

of little value. It would be far better for private teachers to take the position that, where public money is used for private injury, the question of compensation comes in. There is no compensation for grocers when a Whiteley ruins them, it is objected. True, but if local authorities established Whiteleys, supported by the rates, the grocers would rightly demand compensation at once. Those who talked about gas-lighting injuring lamp-makers, seemed incapable of understanding the broad distinction between injury caused by competition, and injury caused by taxation. Mr. Chamberlain holds that it would be "grossly unjust to secure a public good without giving equitable consideration to the private interests involved," and lays it down as a maxim that "the community should honestly acquire the property which it proposes to destroy." Our reformers seem to act upon the maxim: Get organized secondary education—honestly if you can—but, anyhow get it.

On the second evening, the question of the manner of distribution of the technical-education money, and the Science and Art grants, was discussed. Mr. Lees, of Southampton, introduced the subject, by stating that the interests of private schools were being opposed in several quarters, and their very existence threatened by various enemies. In comparing the advantages possessed by public and private schools, he pointed out that in public schools, managed by a committee or governing body, much money was spent on mere experiments, and constant notice was taken of all their doings in the public press. In the case of private schools, however, no such expense could be incurred, and no such continual press-notices were ever obtained; they stood on their own merits, and rested on the support of the British public. He then went on to speak of the present misuse of the technical grants. He said: "Instead of crowding the grant-aided institutions, by means of large numbers of free scholarships, with all sorts and conditions of students, in stages much too varied to work together, would it not be far better if the scholarships were distributed among schools, which are devoted to the same work in the elementary stages, and thus leave the technical schools with fewer students perhaps, but better fitted to make substantial progress in their special technical work, and more calculated to bring credit on the Institute and do good work in after-life?" "The line of demarcation between the completion of the school work proper and the beginning of the real 'technique' of the special study, ought to be well marked. The subjects that fall into the course of the ordinary school teaching are the teaching of drawing, mathematics, and modern languages, and the elements of shorthand, mechanics, commercial geography, chemistry, and physiography; but the development of these subjects in their higher stages should be left to the real Technical Institute. Inasmuch as the schools lay the groundwork of the technical education, they certainly ought to have a good share of the grant given as scholarships. Therefore it is the duty of all interested in education to see that those schools, whether public or private, which join in this work, and prove their performance by sending in pupils for some definite leaving examination, should share in the grants given by the Science and Art Department, and in the funds set apart for the encouragement of technical education."

A good discussion followed the reading of this paper, and several speakers spoke in the same strain; finally, the following resolution, proposed by Mr. W. Brown, was carried unanimously: "That this meeting of private teachers is of opinion that secondary and technical education cannot be efficiently and satisfactorily directed by local authorities, such as County Councils or School Boards, which do not include some persons practically acquainted with secondary or technical education."

Various other subjects were dealt with in the Conference; Miss A. B. Anderton, B.A., gave a very able paper on the "Teaching of Latin to Girls," which was a powerful plea for the encouragement of classical studies in girls' schools; and Mr. John Jackson gave an exhaustive account of the advantages of upright writing, as compared with the ordinary slope. Various plans were suggested for making the campaign of the Private Schools' Association more thorough and more extensive, and it was decided to hold the next year's Conference at Harrogate.

UNIVERSITY INTELLIGENCE.

UNIVERSITY OF LONDON.

In continuation of our Intelligence of last month, we have to state that, in 1895, the "Sherbrooke Prize" will be offered for the best essay, if of sufficient merit, embodying the results of an original research in any department of the science of "Public Health"; in 1896, a "Granville Prize" will be offered for an essay, if of sufficient merit, based on original research into some subject falling under "Experimental Physics"; and in 1897, a second "Granville Prize" will be offered for a similar essay on a subject falling under "Zoology." The essays are to be lodged with the Registrar by the 1st of May in each year, and each is to bear a motto, to which a corresponding motto must appear on an accompanying sealed letter, containing the name of the essayist. The competitors must not be of more than five years' standing as graduates.

As we go to press, the following appointments to the vacant examiner-

ships are announced: *Scripture*, Rev. Dr. C. H. H. Wright; *Mental and Moral Science*, Dr. James Ward; *Political Economy*, Professor Foxwell, M.A.; *Mathematics*, Rev. Dr. Watson, F.R.S.; *Physics*, Professor Poynting, Sc.D., F.R.S., of Mason College, and Professor J. J. Thomson, M.A., who succeeded Lord Rayleigh as University Professor at Cambridge; *Botany*, Professor J. R. Green, B.Sc., M.A., of the Pharmaceutical Society; *Physiology*, Professor William Stirling, M.D., D.Sc., of Owens College; *Equity*, John Simmonds, Esq., LL.D., M.A.; *Anatomy*, Professor D. J. Cunningham, M.D., D.Sc., F.R.S., of Trinity College, Dublin; and *Materia Medica*, Dr. W. Hale White. Dr. Wright, Dr. Ward, Professor Foxwell, and Professor Cunningham have previously served as examiners for a period of five years each; Dr. Watson has acted several times as special examiner, and Dr. Green as a special assistant examiner.

The death of the Chancellor, the Earl of Derby, on April 20th, is a serious blow to the University. It is but just two years, it is true, since he took office; but he had previously been for so many years an active member of the Senate, that he assumed the Chancellorship with an already acquired familiarity with the constitution, history, and business of the University, which left nothing for him to learn. In the imminent crisis in the University for London question, his influence and judicial, as well as judicious, cast of mind will be sadly missed; and we fear it will be impossible to find a successor who will bring quite the same weight to bear upon this and other matters.

OXFORD.

The Hall, Hall-Houghton, and Houghton Prizes have been awarded as follows:—Senior Greek Testament—J. H. Beibetz, B.A., Hertford; highly commended: W. C. Allen, B.A., Exeter. Junior Greek Testament—W. D. Ellis, Scholar of New College; *proxime*: H. J. Riddelsdell, B.A., Jesus. Senior Septuagint—P. V. M. Benecke, B.A., Fellow of Magdalen. Junior Septuagint—J. E. M. Fadyen, Exhibitioner of Balliol; *proxime*: W. F. Holloway, B.A., non-collegiate. Syriac Prize—J. B. Brinkworthy, non-collegiate.

CAMBRIDGE.

The Council of St. John's College have recently extended the tenure of the fellowships held by Mr. G. F. Stout, editor of *Mind*; Mr. A. Harker, demonstrator in Geology; and Mr. W. Bateson, late Balfour Student in Animal Morphology.

An interesting discovery has lately been made at Jesus College. By removing the plaster from the east side of the cloister court, workmen have disclosed a row of arches belonging to the thirteenth century. They appear to have formed a portion of the arcading of the cloisters in the convent which stood on this site before the college was founded.

The Council of Selwyn College has elected Bishop Selwyn, formerly of Melanesia, to succeed the Rev. the Hon. A. T. Lyttelton in the mastership of the college.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

The Irish Academy has elected the following as honorary members:—In the Section of Science: George H. Darwin, of Cambridge; Baron Ferd. von Richthofen, of Berlin; and Edward Strasburger, of Bonn. In the Section of Polite Literature and Antiquities: Karl Brugmann, of Leipzig; Emil Hübner, of Berlin; Robert Munro, of Edinburgh.

Emeritus Professor Lewis Campbell has been appointed Gifford Lecturer in the University of St. Andrews for a period of two years, commencing October 1st, 1894.

The University Court of St. Andrews has recognised the lecturers of the Edinburgh School of Medicine for Women as "lecturers specially appointed" by the University for the instruction of women in medicine, according to the ordinances of the Scottish Universities Commission. The result is that the women students at Edinburgh are for the first time empowered to present themselves for examination for the medical degrees of St. Andrews.

The Rev. C. B. Upton, lecturer on philosophy in Manchester New College, will deliver the Hibbert Lectures for 1893, his subject being "The Bases of Religious Belief."

The Rev. Professor Simon, D.D., of the Theological Hall, Edinburgh, has been appointed Principal of the Yorkshire United College, Bradford, in succession to the late Rev. Dr. Falding.

At Edinburgh, on Thursday, April 13th, for the first time at any Scotch University, degrees were conferred upon women.

EDUCATIONAL NOTES AND SUMMARY.

MR. BALFOUR has reprinted seven of his most brilliant essays and addresses, in a neat little volume, published by David Douglas, Edinburgh. The Rectorial Address on "The Pleasures of Reading," delivered at St. Andrews, forms a fitting introduction to the series. "My theme," says Mr. Balfour, "is the enjoyment, not, mark you, the improvement, nor the glory, but the *enjoyment* which may be derived from books" by "the ordinary reader with ordinary capacities and ordinary leisure." The following protest against the necessary evil of examinations is deserving of more than passing attention:—"The habit of always requiring

some reward for knowledge beyond the knowledge itself, be that reward some material prize or be it what is vaguely called self-improvement, is one with which I confess I have little sympathy, fostered though it is by the whole scheme of our modern education. Do not suppose that I desire the impossible. I would not, if I could, destroy the examination system. But there are times, I confess, when I feel tempted somewhat to vary the prayer of the poet, and to ask whether Heaven has not reserved in pity to this much-educating generation some peaceful desert of literature as yet unclaimed by the crammer or the coach; where it might be possible for the student to wander, even, perhaps, to stray, at his own pleasure, without finding every beauty labelled, every difficulty engineered, every nook surveyed, and a professional cicerone standing at every corner to guide each succeeding traveller along the same well-worn round. If such a wish were granted, I would further ask that the domain of knowledge thus 'neutralized' should be the literature of our own country. I grant to the full that the systematic study of some literature must be a principal element in the education of youth. But why should that literature be our own? Why should we brush off the bloom and freshness from the works to which Englishmen and Scotchmen most naturally turn for refreshment—namely, those written in their own language? Why should we associate them with the memory of hours spent in weary study; in the effort to remember, for purposes of examination, what no human being would wish to remember for any other; in the struggle to learn something, not because the learner desires to know it, because he desires some one else to know that he knows it? This is the dark side of the examination system—a system necessary and therefore excellent, but one which does, through the very efficiency and thoroughness of the drill by which it imparts knowledge, to some extent impair the most delicate pleasures by which the acquisition of knowledge should be attended."

CAMBRIDGE has during the last year provided courses of lectures on various scientific subjects coming within the scope of the Technical Instruction Acts for eleven County Councils, as well as for the Technical Education Committees of other Local Authorities. A large part of the work done has consisted of simple scientific teaching in villages and small towns, and the attempt thus to bring the Universities into closer relation with rural districts has naturally led to results of considerable interest and novelty. The results of such work and the most effective way of making progress in the future will be among the subjects discussed at the Conference. Another item will be the scheme for systematic instruction in agricultural science at the University, devised by Professor Liveing and others, in co-operation with several of the County Councils.

THE Cambridge University Extension authorities have already announced as part of the programme of their summer meeting, to be held in Cambridge next autumn, five courses of practical work in science in the University Laboratories and Museums, the subjects selected being chemistry, electricity, botany, physiology, and geology. As, however, the date of the summer meeting, July 29th to August 26th, is too early for many teachers in elementary schools, whose holidays fall during harvest time, arrangements have also been made for two courses in agricultural chemistry, specially adapted to meet the requirements of teachers sent with scholarships by their respective County Councils. Each course will extend from August 25th to September 12th inclusive, and will thus include sixteen working days, on each of which several hours' work in the University Laboratory will be provided. One course—conducted by Mr. Fenton, one of the University Demonstrators—is intended for students who have done little or no laboratory work, but have acquired a knowledge of theoretical chemistry, and will be similar to the course given last year, and attended by about one hundred and twenty County Council scholars. The other course—conducted by Mr. R. H. Adie, one of the Cambridge Extension lecturers—will be more advanced in character, and will be adapted to students who went through last year's course with credit, or have done similar work elsewhere. Accommodation for one hundred and twenty students can be provided at these two courses.

THE famous "Lays" of Lord Macaulay have made him a universal favourite with young people, and it seems that this rare popularity is the outcome of a character full of the qualities that

endear a man to children. The accuracy of such an estimate is shown by the poems written to his niece, the present Lady Knutsford, when she was quite a child, which are about to be published for the first time in the *English Illustrated Magazine*. Quite apart from the literary interest of these poems, obviously "thrown off" as they were with an absence of elaboration that gives them a special charm of their own, we find in them delightful testimony to the great man's affection for children—the full and free sympathy of a nature as young as the youngest—and a readiness to take trouble to give them pleasure, too seldom displayed by grown-up people. Lord Macaulay even indited his verses in printed capital letters that his little niece might be able to read them herself, and they nearly always contain allusions to some present he was preparing or treat he was planning at the cost of not a little personal exertion for his "Dearest Babba." The public will be grateful to Lady Knutsford for consenting to publish this little "Garland of Verses," and will echo the wish that she may be some day persuaded to give to the world her uncle's diaries, of which many volumes are understood to be in existence.

WE are glad to hear that the number of annual subscribers to the *English Illustrated Magazine* has already been nearly doubled since the publication was taken over by Mr. Edward Arnold a month ago.

THE Revised Instructions issued to Her Majesty's Inspectors, and applicable to the Code of 1893, contain a paragraph which forms an excellent supplement to the circular on Froebelian Methods which we quoted last month. The following is the paragraph:—"It should not be forgotten that the principles which underlie the system of kindergarten occupation do not cease to be applicable when a scholar quits the infant school or department. For example, elementary drawing, dialogues, picture and object-lessons, the cutting out and inventing of paper patterns, modelling, weighing and measuring, and musical drill are not only useful in diversifying the day's employments in the lower standards of the school for older children, but they will be found to increase the brightness and intelligence with which those children pursue the regular course of elementary instruction. Moreover, such exercise will serve as a valuable link connecting the work of the infant school with some of those forms of technical or manual training which are now with very great advantage adopted in the upper classes of many good schools. It is one of the chief objects of the kindergarten to establish a right and harmonious relation between those lessons which are addressed to the memory and the understanding of a child, and those interesting manual and other exercises which call forth his active and observant powers. And this is an object which ought to be kept steadily in view throughout all the subsequent stages of a scholar's career in a public elementary school."

A GYMNASIUM for women is to be established at Carlsruhe on the model of similar institutions recently founded at Vienna and Prague. Only such girls will be admitted as have already acquired the necessary *Vorbildung*. The course of instruction will extend over six years, and the fee for each pupil will be £8 only.

A "SEMINARY" is to be established at the University of Breslau for Slavonic philology, which circumstance may be considered both as a scientific and political concession.

THE Archbishop of Olmütz, who has the moral courage to retain his patronymic of Kohn, has recommended to the clergy of Moravia the study of natural sciences, which he does not consider antagonistic to religion. Dr. Kohn also advocates the spread of culture among the people.

THE month of April has bristled with conferences. The Teachers' Guild has held its meeting at Oxford—of which we give an account in another column. The School Inspectors have met, so have the Irish Teachers, the National Union of Catholic Teachers, and last, and by no means least, the N.U.T. This last body, which numbers now close upon twenty-four thousand members, has had a large and very successful gathering at Liverpool—probably the largest gathering of teachers who have ever met in England. The President, Mr. Bowden, touched upon almost every topic of educational politics in a plain, workmanlike, outspoken address; and many of the papers read were

of decided value, notably those by Mr. Ellery on "Superannuation," Mr. Yoxall on "Salaries," and Mr. Waddington on "Child Labour." We do not notice, however, that anything purely pedagogic and belonging to educational science was touched upon. This seems, to us, rather a pity, as it might give the public the idea that teachers are not much interested in what is essentially the work of their profession. Much was said, and well said, by the president on the burning question of the organization of secondary education; but we must confess that we do not share all his views, nor are we quite prepared as yet for so far-reaching a revolution as he shadowed forth, nor do we look upon secondary education as merely an extension of elementary education—though, of course, they should be in substantial harmony. How to create and maintain this harmony without impairing the work of either department is, undoubtedly, one of the great problems of the hour.

THOSE of our readers who are interested in physical education, will find a very interesting and forcible paper on "Mental Evolution and Physical Development," by Miss Charlotte Smith, in the April number of the *Medical Magazine*. Miss Smith's training and professional attainments make her specially fitted to write on the subject, and she does not attempt to disguise the strong opinions she has formed on the value and the necessity of physical exercise and games, not only for boys, but also for girls, and the intimate relation of these to healthy mental development. We do not think she is in any way too severe when, on the subject of girls' schools with inadequate playgrounds, or no playgrounds at all, she writes: "So it comes that many of the best schools—setting themselves in the vanguard of woman's onward progress—yet trample under foot God's holy laws for the building up of the body, which is His temple, and protesting against all artificial barriers which might preclude women from entering on certain careers, are diligent to preserve such barriers as will only destroy a woman's health and happiness, or make her, in some instances, incapable of entering on a career at all." The only fault we find with the paper is, that we are told too little about the effect of physical exercise on mental development. It is rather mental health than mental development to which Miss Smith refers. With manual training spreading so fast in our schools, it becomes more and more necessary for us to know the bearing of this and of other physical exercise on the developing of mental power and mental skill. We had hoped to find something of this in the paper before us. Perhaps some day Miss Smith will extend her inquiries in this direction. Meanwhile, what she has already given us will, we doubt not, prove useful and stimulative. Perhaps Miss Smith might have somewhat more fully acknowledged her many obligations to "Physique" and its editor Mr. Charles Roberts.

THE Cambridge Training College for Women has now been incorporated. In eight years the number of students has risen from fourteen to forty-eight, and the efforts of the new Council are being now directed towards providing new buildings. It is estimated that from £12,000 to £15,000 is required. If £4000 or £5000 can be raised, the Council consider that they will be justified in commencing building operations.

THE *Manchester Guardian* states that the headmaster of Eton, on being approached by the Private Schools Association last January with regard to the Teachers' Registration Bill and the Secondary Education Bill now before Parliament, replied that the Committee of the Headmasters' Conference was not indifferent to the character of the Bills, but was exercising watchful care over them, and invited further communications. This led the headmaster of Haileybury, who is also chairman of the Council of the Teachers' Guild, and has engaged to read a paper on these Bills at the Guild Conference at Oxford next month, to write and say that he felt the "private schools were too large and important to be neglected," and that he would be glad of answers to certain specified questions. These questions the Association has just been considering. The questions Mr. Lyttelton asks are such as these:—What is the number of private schools in England? Do private teachers regard the Registration Bill with any apprehension? Would they consent to any system of Government inspection and examination? What safeguards would be thought to be desirable in the case of County Councils being empowered to subsidise grammar schools or found new ones? Is there reason to fear the County Councils would overlook the claims of private schools that were doing good work?

MATHEMATICS.

11807. (J. C. ST. CLAIR.)—Given two unequal homographic pencils with different centres, show that (1) if one pencil rotate round its centre, the conics generated in the successive positions by the intersections of corresponding rays have two imaginary points in common; and (2) if both pencils rotate in such a manner as to generate straight lines, these lines envelope a conic.

Solution by Professor SCHOUTE; the PROPOSER; and others.

1. Let O, O' be the given centres, and let the ray OC of the rotating pencil correspond with the fixed ray $O'O$ of the other. When OC coincides with $O'O$ the intersections of the other corresponding rays will lie on a line AC .

Let another ray OP be brought to coincidence with $O'O$, and let OC' be the new position of OC . Then the intersection Q of OC' with $O'P$ is the pole of OO' with respect to the generated conic.

[The rest in Volume.]

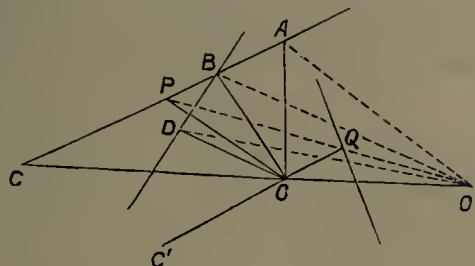
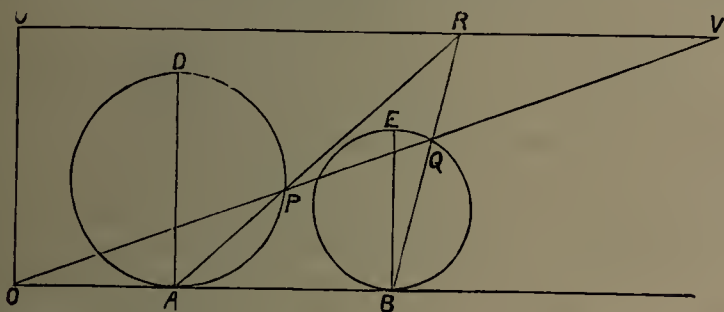


Fig. 1.

11870. (EDITOR.)—If OAB be a fixed straight line touching two given conics in A, B , OPQ any straight line through O meeting the two conics in P, Q , prove that the locus of the intersection of the straight lines AP, BQ is a conic passing through the four common points of the two given conics.

Solution by B. J. DOBBS, B.A.; Professor FARNY; and others.

Project two of the points in which the given conics intersect into the circles, then the conics become circles, and any conic passing through the common points of the given conics also becomes a circle.



[The rest in Volume.]

572. (J. W. ELLIOTT.)—Trace the curves represented by the equations $x^4 + y^4 = a^2xy$ (1), $x^4 + y^4 = 2axy^2$ (2).

Solution by Professors BEYENS, ZERR, and others.

The axes are tangents to both curves at the origin. Each curve consists of two equal loops arranged as in the figures.

The two loops of Fig. 1 are bisected by the line $x = y$; this is the curve to equation (1).

Fig. 2 consists of a parabola and semi-cubical parabola; near the origin the line $y = \sqrt{3}x$ passes through the vertex of the upper loop, and $y = \sqrt{3}x$ through the vertex of the lower loop.

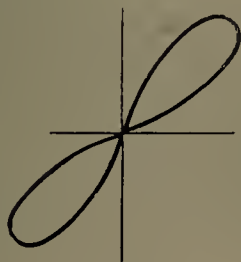


Fig. 1.

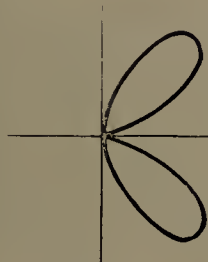


Fig. 2.

11851. (Professor SYLVESTER.)—Prove that it is not possible to arrange any finite number of real points so that a right line through every two of them shall pass through a third, unless they all lie in the same right line.

Solution by H. J. WOODALL, A.R.C.S.

Suppose that a set of n points are so situated as to fulfil the condition (but not collinear). Now abstract one of them and note its position; then the $\frac{1}{2}(n-1)(n-2)$ lines joining the remaining points must pass through the position of the abstracted point, which is absurd.

[This does not appear to be a complete proof, e.g., it leaves out of consideration the fact that $\frac{1}{2}(n-1)(n-2)$ is the maximum limit of the number of lines; on the other hand, some of the satisfied lines will be unaltered by abstraction of the point; leaving these out of consideration, it will still appear absurd. The following method (something after the inductive style) is equally incomplete, but may be worth notice:—Build

up the system commencing from the triangle; now "satisfy" the sides, and thus cause 6 "wants"; satisfy these at the intersections 2 and 2, causing 6 "wants," and so on.]

11837. (D. BIDDLE.)—Find the time indicated by a clock or watch, having given the position (α or $\alpha + 180^\circ$) of that diameter of the dial which bisects the angle separating the hands, and the interval (β) which must elapse before the hands are next in direct opposition. Also show the peculiar interdependence of α and β ; either may be any part of the hour-circle, but both cannot be.

Solution by MORGAN BRIERLEY; Professor SHIELDS; and others.

Let the hour circle of the clock or watch be divided into eleven equal parts of $65\frac{5}{11}$ minutes each; then at every one of these divisions the hour and minute fingers will be exactly together, and when the hour finger is half-way between any two divisions the minute finger will be in opposition to it on the other side of the dial. When the fingers are together, the bisecting diameter a will be in the same line with them; and when they are in opposition it will be, obviously, at right angles to them.



[The rest in Volume.]

11727. (Professor VUITTENEZ.)—Dans une parabole de foyer F , on mène par le point d'intersection D de l'axe et de la directrice une secante DMN ; soient M_1 et N_1 les points de rencontre de la circonférence passant par FMN avec les parallèles à l'axe issues de M et de N . Démontrer que $FM_1 = FN_1$.

11804. (R. KNOWLES, B.A.)—In Quest. 11727, if the circle FMN of centre O meet the axis again in K , prove that (1) OK bisects MN , (2) the locus of O is a semi-cubical parabola.

Solution by Professor A. DROZ FARNY.

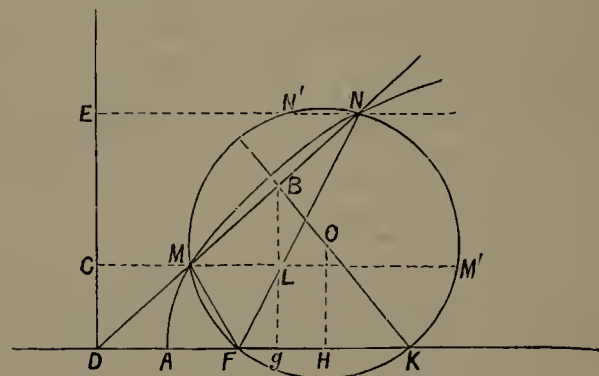
Soient L le point d'intersection de FN avec MM_1 , B le milieu de MN , et G, H les projections de B et O sur l'axe. On a $FL/FN = DM/DN = MC/NE = MF/NF$, d'où $FL = FM$.

Angle $FMM' = FLM = FNN'$,

donc

corde $FM' = FN'$.

[The rest in Volume.]



5518. (Rev. W. ROBERTS, M.A.)—Let S denote the length of the periphery of an ellipse; S_1, S_2 the length of its first two positive pedals, and S_{-1}, S_{-2} the lengths of its first two negative pedals; then, if the origin be at the centre of the ellipse, prove that

$$(S_1 + S_{-1})S_{-1} = (2S - S_2)(3S - S_{-2}).$$

Solution by Professor SEBASTIAN SIRCUM, M.A.

We have $S = \int_0^{2\pi} p d\omega$. In the ellipse, $r^2 = a^2 + b^2 - \frac{a^2 b^2}{p^2}$; also $r^2 = p^2 + (dp/d\omega)^2$;

hence we have

$$S = 4 \int_0^a \frac{p dp}{(r^2 - p^2)^{3/2}} = 4 \int_0^a \frac{r dr}{(r^2 - p^2)^{3/2}}; \quad S_1 = \int_0^{2\pi} r d\omega = 4 \int_0^a \frac{r dp}{(r^2 - p^2)^{3/2}}$$

[The rest in Volume.]

7207. (Professor ORCHARD, M.A.)—A fixed circle passes through the centre of the ellipse $r = l/(1 + e \cos \theta)$, and has the same area. The ellipse revolves round an axis through its centre perpendicular to its plane. Find, for a single revolution, the area common to the two curves.

Solution by Professor G. B. M. ZERR.

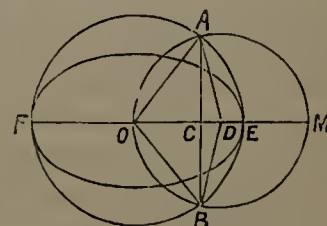
In a revolution the ellipse describes the circle $AFBE$. Although the whole area of the ellipse will have passed over the area $AFBE$, yet the area common to both is the area $AOBE$.

$$\text{Area of ellipse} = \pi l^2 (1 - e^2)^{3/2};$$

$$\therefore DA = r = l/(1 - e^2)^{3/2}, \quad AO = R = l/(1 - e^2),$$

$$AC = c = \frac{R(4r^2 - R^2)^{1/2}}{2r}.$$

[The rest in Volume.]



11871. (R. TUCKER, M.A.) (O), (O'), are the circum- and in-circles of the triangle ABC, and A'B'C' is the diametral triangle; prove that (1) the sum of the squares of the tangents (taken once) from the six vertices to (O') = $6(2R^2 - 2Rr - r^2)$; (2) the circle, centre A', radius A'O', cuts (O) in L; (3) AL is a mean proportional between AB, AC.

Solution by Professor A. DROZ FARNY, W. J. DOBBS, M.A., and others.

1. Soient t et t' les tangentes de A et A'a' (O').

$$t^2 = (AO_1)^2 - r^2, \quad t_1'^2 = (A_1O_1)^2 - r^2,$$

$$t^2 + t_1'^2 = (AO_1)^2 + (A_1O_1)^2 - 2r^2$$

$$= 2R^2 - 2r^2 + 2(OO_1)^2$$

$$= 4R^2 - 4Rr - 2r^2,$$

$$\Sigma t^2 + t_1'^2 = 6(2R^2 - 2Rr - r^2).$$

$$2, 3. (AL)^2 = (AA_1)^2 - (A_1O_1)^2$$

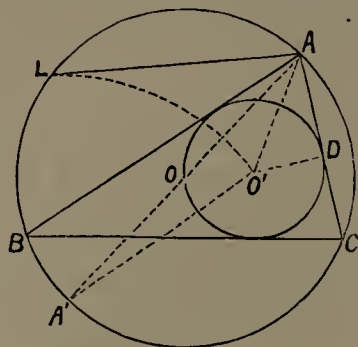
$$= 4R^2 - (A_1O_1)^2;$$

$$\text{mais } (AO_1)^2 + (A_1O_1)^2 = 4R^2 - 4Rr,$$

$$\text{et } (AO_1)^2 = \frac{(AD)^2}{\cos^2 \frac{1}{2}A} = \frac{(p-a)^2}{\cos^2 \frac{1}{2}A} = \frac{bc(p-a)}{p}.$$

$$\text{Donc } (AL)^2 = 4Rr + bc(p-a)/p.$$

$$\text{Mais } 4Rr = abc/p, \quad (AL)^2 = abc/p + bc(p-a)/p \quad (AL)^2 = bc.$$



11064. (W. J. GREENSTREET, M.A.)—A parallelogram is formed by joining the vertices of an ellipse. Find (1) the points of contact of an ellipse inscribed to this parallelogram and confocal with the original ellipse; (2) the radii of curvature at these points; and (3) the area of circles osculating at these points.

Solution by Professor ZERR.

$$\text{Let } OH = OF = a \quad \{$$

$$OE = OG = b \quad \}$$

be the semi-axes of the given ellipse,

$$OB = OA = \lambda \quad \{$$

$$OC = OD = \beta \quad \}$$

be the semi-axes of the confocal ellipse.

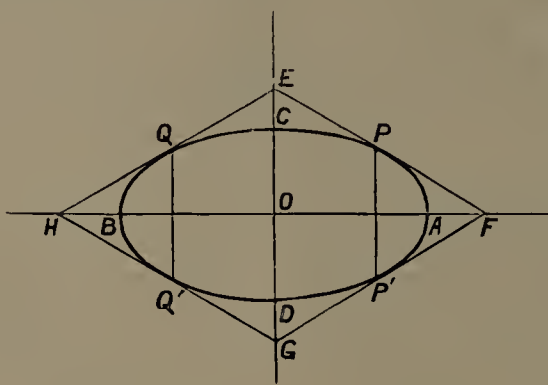
Then the area of

$$FGHE = 4\lambda\beta = 2ab;$$

$$\therefore 2\lambda\beta = ab,$$

$$\text{and } 2 - \beta^2 = a^2 - b^2.$$

[The rest in Volume.]



11579. (R. KNOWLES, B.A.)—From the vertices of the triangle ABC, three concurrent lines are drawn to meet the opposite sides in D, E, F, respectively. Prove that the three points of intersection of BC, AC, AB with FE, FD, DE respectively are collinear.

Solution by T. W. K. CLARKE; J. BURKE, B.A.; and others.

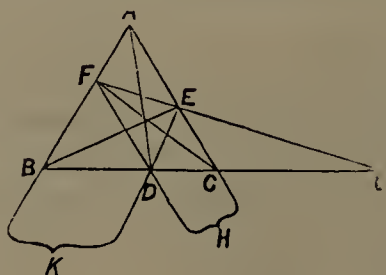
Let EF, BC cut in G, and DF, AC in H; DE, AB in K; then we have

$$\frac{AE}{EC} \cdot \frac{BF}{FA} \cdot \frac{CG}{GB} = -1,$$

and two similar equations. But

$$\frac{AE}{EC} \cdot \frac{BF}{FA} \cdot \frac{CD}{DB} = 1.$$

[The rest in Volume.]



11840. (A. KAHN, B.A.)—Three circles touch one another, A, B, and C being the points of contact. Any line DAE is drawn, cutting again the two circles which touch at A, in D and E respectively. EB and DC are drawn to meet the third circle again in G and F respectively. Prove that GF is a diameter of the third circle.

Solution by W. J. DOBBS, B.A.;

W. J. CONSTABLE, M.A.;

and others.

Since AC, AB, BC subtend, at the circumferences of their respective circles, angles which together make up one right angle,

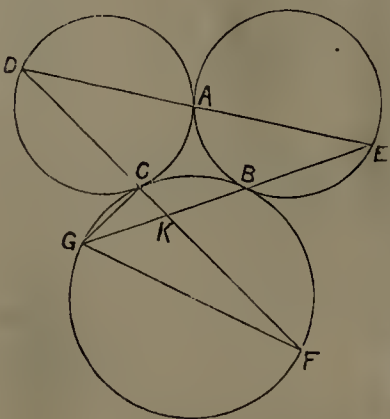
$$\text{i.e., } \angle CDA + \angle BEA + \angle CGB$$

$$= \text{right angle,}$$

$$\therefore \angle CKG + \angle CGK = \text{right angle;}$$

$$\therefore \text{GCK is a right angle;}$$

$$\therefore \text{GF is a diameter.}$$



10660. (Professor SCHOUTE.)—Given four coplanar conics: show that there are to be found three right lines that meet these four conics in four couples of points belonging to the same quadratic involution.

Solution by Professor A. DROZ FARNY.

On sait qu'une conique fixe U est coupée par les diverses coniques d'un faisceau MNPQ suivant des cordes qui enveloppent une courbe de troisième classe qui est tangente aux côtés et aux diagonales du quadrilatère inscrit MNPQ, et qu'une droite quelconque est toujours coupée par un faisceau de coniques suivant des couples de points en involution.

[The rest in Volume.]

11712. (MORGAN BRIERLEY.)—Prove, geometrically, that the sum of the double ordinate and abscissa of a parabola is equal to the sum of the diameters of the inscribed and circumscribed circles.

Solution by H. W. CURJEL, B.A.

Let QPAP'Q' be the parabola, ANBA' being the axis, and QBQ' the double ordinate, and S the focus. Let AQA'Q' be the circumcircle, and BPB'P' the incircle cutting the axis in B and B', and let the normal at P cut the axis in G.

$$\text{Then } AB \cdot BA' = QB^2 = AB \times 4AS;$$

$$\therefore BA' = 4AS.$$

$$\text{Also, } NG = 2AS,$$

$$GB^2 = PG^2 = NG^2 + PN^2$$

$$= 4AS \cdot AN + 4AS^2,$$

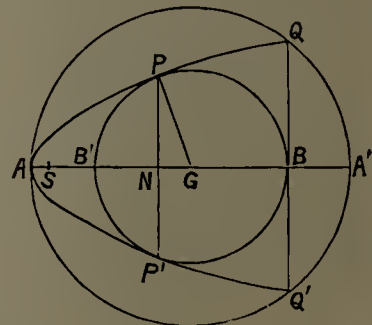
$$\text{and } BN^2 = GB^2 + 4AS \cdot GB + 4AS^2$$

$$= 4AS \cdot AN + 8AS^2 + 4AS \cdot GB = 4AS \cdot AN + 4AS \cdot NG + 4AS \cdot GB$$

$$= 4AS \cdot AB = QB^2;$$

$$\therefore BN = QB; \quad \therefore QQ' = BB' + 4AS = BB' + BA';$$

$$\therefore QQ' + AB = BB' + AB + BA' = BB' + AA'.$$



QUESTIONS FOR SOLUTION.

11922. (Professor SYLVESTER.)—If the equation

$$(a, b, c, c, b, a)(x, y)^3 = 0$$

has two equal roots and no more, show that it may be transformed by linear substitutions into one or the other of the two following forms: viz.,

$$u^3v^2 + u^2v^3 = 0, \quad \text{or} \quad -u^4v + u^3v^2 + u^2v^3 - uv^4 = 0.$$

11923. (Prof. DECAMPS.)—Soient AA', BB' deux diamètres rectangulaires d'un cercle O. D'un point quelconque C de la circonférence, on abaisse une perpendiculaire CD sur AA'; on porte sur OC une longueur OE = OD, et l'on projette E en F sur AA'. Trouver le lieu du point de rencontre des droites BF et CD. La figure donne le moyen de construire un angle dont la tangente soit le carré du cosinus d'un angle donné, ou dont le cosinus soit la racine carrée de la tangente d'un angle donné.

11924. (Professor ZERR.)—From an unknown number of balls, each equally likely to be any of n colours, $a_1 + a_2 + \dots + a_n$ balls are drawn, and turn out a_1 of the first colour, a_2 of the second colour, ..., a_n of the n th colour. If $b_1 + b_2 + \dots + b_n$ more balls are drawn, find the probability that b_1 are of the first colour, b_2 of the second colour, ..., b_n of the n th colour.

11925. (Professor MUKHOPADHYAY, M.A.)—If two equal and parallel pieces of mirror-glass, containing a thin plate of air between them, be closely united and immersed in a vessel of water, explain how it is that an object at the bottom can be plainly seen through them until the angle at which they are inclined to the surface becomes considerable, after which the object cannot be seen.

11926. (Professor RAMASWAMI AYYAR.)—Let ABCD be a tetrahedron; and, as before, let L denote any one of its Lemoine points L_0, L_1, L_2, L_3 . Let the lines joining L to the vertices of ABCD meet the circumscribing sphere X again in A', B', C', D'; and let A'B'C'D' be called the tetrahedron conjugate to ABCD. Prove that (1) the conjugate tetrahedron obtained is one and the same whichever of the Lemoine points is denoted by L; (2) the points L_0, L_1, L_2, L_3 are also the Lemoine points of the conjugate tetrahedron A'B'C'D'; and the tetrahedron conjugate to A'B'C'D' is the tetrahedron ABCD; (3) the four "L" systems of spheres, as well as their four enveloping quadrics, are the same for the two conjugate tetrahedra ABCD and A'B'C'D'.

11927. (Professor ORCHARD, M.A.)—The ellipse $x^2 + 2y^2 = 2$ is revolving, with constant angular velocity ω , about its minor axis, when one end of the latus rectum impinges upon a fixed obstacle; find the instantaneous change in ω .

11928. (Professor CURTIS, M.A.)—The lengths of the common tangents to two circles are t_1 and t_2 ; show that the anharmonic ratio of the points in which they cut any other tangent is $= (t_1 - t_2)/(t_1 + t_2)$.

11929. (Professor MATZ, M.A.)—Three points are taken at random in the surface of a given elliptic quadrant; find (1) the mean area of all the triangles that can be formed by joining the random points with straight lines; and (2) by making the elliptic quadrant equiaxial, obtain therefrom the result to Question 6285.

11930. (Professor B. O. PEIRCE.)—Each of a number of equal heavy

particles, which make up a system S , is constrained to remain on one of a set (P) of parallel straight lines in a plane, equally spaced at a distance a apart. Between the members of each pair of adjacent particles there acts an attractive force proportional to the distance, and of absolute value μ . There are $n+2$ consecutive particles in the system, and the extreme particles are fixed at two points A and B in a line which cuts P at right angles. The system S' is in all respects similar to S , except that it consists of $n+1$ particles and the extreme particles are free to move on their lines. However the particles in S and S' may be moving under the action of the internal forces, it is evident that the configuration of each of the systems (provided the centre of gravity of S' is at rest) may be completely stated by a combination of n simple harmonic terms of definite periods. Show that $\delta_{n+1} \div \Delta_n = D^2$, where D represents differentiation with respect to the time, Δ_n represents the determinant of n rows and n columns:—

$$\begin{vmatrix} D^2+2k & -k & 0 & 0 \\ -k & D^2+2k & -k & 0 \\ 0 & -k & D^2+2k & -k \\ 0 & 0 & -k & D^2+2k \end{vmatrix} \begin{vmatrix} D^2+2k & -k \\ -k & D^2+2k \end{vmatrix}$$

and δ_n represents a determinant with all its elements identical with those of Δ_n except the first and last elements of the principal diagonal, which are D^2+k instead of D^2+2k . Hence, prove that the periods of the harmonic terms which are involved in the motion of S' are the same as those of the terms which are involved in the motion of S .

11931. (Professor CAVALLIN, M.A.)—Three points A, B, C are taken at random within a sphere; find the mean value of p^n , where p is the perpendicular from the centre of the sphere on the plane ABC and n any positive number. [It is easy to show that the required mean value is unaltered when, instead of the point systems B, C , we take a system of chords ($B'C'$) with a density, perpendicular to $B'C'$, varying as $(B'C')^4$, all directions of the chords being equally probable; and from this altered form of the problem the solution of the problem in question is easily obtained, and the result expressed in gamma-functions.]

11932. (Professor IGNACIO BEYENS.)—On donne une ellipse, un point P qu'on joint aux foyers. Démontrer que les centres des sécantes communes au système des deux droites ainsi obtenues et à l'ellipse sont sur l'hyperbole d'Apollonius du point P .

11933. (Professor NEUBERG.)—Soient A', B', C', D' les projections des sommets d'un tétraèdre $ABCD$ sur un plan quelconque P , et soient A_1, B_1, C_1, D_1 les orthocentres des triangles $B'C'D', C'D'A', D'A'B', A'B'C'$. Démontrer (1) que les perpendiculaires menées des points A' et A_1 sur le plan BCD , de B' et B_1 sur CDA , de C' et C_1 sur DAB , de D' et D_1 sur ABC , sont sur un même hyperboloïde; (2) que les perpendiculaires abaissées des milieux des droites $A'A_1, B'B_1, C'C_1, D'D_1$ respectivement sur les plans BCD, CDA, DAB, ABC , concourent en un même point (centre de l'hyperboloïde).

11934. (Professor CATALAN.)—Mettre le produit

$$\{1+x(-1)^1\} \{1+x^2(-1)^2\} \{1+x^4(-1)^3\} \{1+x^8(-1)^4\} \dots$$

sous la forme $P+Q(-1)^1$. Dans chacun des polynômes P, Q , déterminer les coefficients des puissances de x . Quelle est la loi générale? Déduire de ce problème la décomposition de $(1+x^2)(1+x^4)(1+x^8)(1+x^{16}) \dots$ en une somme de deux carrés.

11935. (Professor LEMOINE.)—La somme des carrés de trois nombres entiers, multipliée par la somme des doubles produits des carrés de ces nombres, est une somme de trois carrés entiers.

11936. (Professor DE LONGCHAMPS.)—Éliminer le paramètre ϕ entre les deux égalités $2x \sin^3 \theta = c \sin^2 (\phi - \frac{1}{2}\theta) \sin (\phi + \frac{1}{2}\theta)$, $2y \sin^3 \theta = c \sin^2 (\phi + \frac{1}{2}\theta) \sin (\phi - \frac{1}{2}\theta)$.

11937. (Professor MOREL.)—On donne un point et deux cercles. Construire les foyers d'une conique passant par le point et bitangente à chacun des deux cercles, les centres de ceux-ci devant se trouver sur le même axe.

11938. (Professor BROCARD.)—Un disque elliptique se déplace en restant toujours tangente à une droite fixe OX en un point donné O . Quel est le lieu géométrique du centre de courbure de l'ellipse au point où la courbe est rencontrée par la normale fixe OY .

11939. (Professor SHIELDS.)—A surveyor owned, and had his residence H in the centre of, a large square tract of land A , whose perimeter contained as many inches as there were square acres in its area, in which was inscribed the largest circle B possible. The circumference of the circle contains as many inches as there are square acres in its area. Within the circle B is another similar square tract C , and inscribed circle D . The perimeter of the square tract C contains as many yards as there are square acres in its area, and the circumference of the inscribed circle D contains as many yards as there are square acres in its area; and in the circle D is laid off another similar square tract E , and inscribed circle F . The perimeter of the square tract E contains as many rods as there are square acres in its area; and the inscribed circle F contains as many rods as there are square acres in its area; and in the circle F there is a square house-lot G , on which stands the largest round-based house H possible; the perimeter of the square house-lot G contains as many feet as there are square yards in its area; and the circumference of the round-based

house H contains as many feet as there are square yards covered by the house. Give the perimeter, circumference, and area of each tract of land?

11940. (Professor D'OCAGNE.)—On a des jetons de deux espèces, les uns J de rayon R , les autres j de rayon r . On dispose des jetons j autour d'un jeton J de manière que chacun d'eux touche à la fois le jeton J et les deux jetons j les plus voisins. (1) A quelle condition la couronne formée par les jetons j se ferme-t-elle? (2) Est-il possible de déterminer les rayons r et R de façon que l'on puisse, à la fois, faire une couronne fermée de j autour d'un J et une couronne fermée de J autour d'un j ?

11941. (EDITOR.)—Given a triangle ABC , a point L , and a line l . Let CA cut l in Q and LB in B' , and construct the double points VV' of the involution $(AC, B'Q)$. Similarly, construct UU' on CB . Let CL cut AB in C' and l in F , and construct the double points ZZ' of the involution (CC', LF) . Show directly that the six points $VV'UU'ZZ'$ lie on a conic, and that for this conic (1) ABC is a self-conjugate triangle, (2) l is the polar of L . [This construction is given, without proof, on page 235 of Mr. J. W. RUSSELL's *Pure Geometry*, a complete and truly admirable treatise, which we commend to the notice of our readers.]

11942. (D. BIDDLE.)—The series consisting of the reciprocals of figurate numbers of the third order (1, 3, 6, 10, &c.) is summed, from the n th term onwards to infinity, by $2/n$; or if the number of the first term be not known, but this and the next term be given, then

$$\sum_{n=a}^{\infty} \frac{1}{a} + \frac{1}{a+b} + \&c. = \frac{b}{a}.$$

But n can be found from a alone, although to have to do so renders the summation a more lengthy process.

11943. (R. TUCKER, M.A.)—The distances OA, OB, OC of a point O from the angles of an equilateral triangle are a, b, c ; if a triangle can be formed with these lengths as sides, prove that, with usual notation, if x is a side of the equilateral triangle, then $x^2 = 2\lambda \cos(60^\circ \pm \omega)$.

11944. (H. J. WOODALL, A.R.C.S.)—Is there, connected with great circles on a sphere, a theorem similar to the theorem of the harmonic conjugate of a point with respect to a triangle? [See Quest. 11579.] If so, enunciate and prove it.

11945. (D. EDWARDS.)—Prove that (1) the mean area of all triangles having their vertices upon the surface of a given right-angled isosceles triangle of area Δ , is $\frac{13}{16}\Delta$; (2) the same result holds for any given triangle; and (3) the chance that the base angles are acute is $\frac{7}{10}$.

11946. (W. J. DOBBS, B.A.)—Two conics, I. and II., are drawn, each passing through four points, A, B, C, D . P and Q are any two points on I., and PA, PB, QA, QB meet II. in the points p_1, p_2, q_1, q_2 , respectively. Prove that PQ, q_2p_1, p_2q_1, CD are concurrent; also that p_1p_2, CD , and the tangent at P are concurrent; also that q_1q_2, CD , and the tangent at Q are concurrent.

11947. (W. J. GREENSTREET, M.A.)—If AB be a chord of a circle centre O , find the locus of the orthocentre of the triangle OAB as AB turns round O .

11948. (Capt. P. A. MACMAHON, R.A.)—A tangent to a parabola inscribed in a triangle is inclined at an angle δ to the axis; find its envelope, and also the locus of the centres of the series of envelopes obtained by varying δ .

11949. (G. S. CARR, B.A.)—If five equal spherical conductors be placed with their centres at the corners of a square pyramid, an edge of the base being a , and the slant edge b , and if the sphere at the vertex be insulated and charged with electricity E , while the other spheres are connected to earth; show that, if r , the radius of the spheres, be small compared to their mutual distances, the charge induced upon each of the uninsulated

spheres will be $-\frac{ra\sqrt{2}}{b(a\sqrt{2}+2\sqrt{2}+1)} \cdot E$.

11950. (R. F. SCOTT, M.A.)—Snow is uniformly spread over the surfaces of a conical pinnacle and of the hemispherical dome of a building. It begins to slide off, starting at the highest point and clearing a path as it goes. Prove that the motion in the two cases is the same as that of a free particle moving on the surfaces under the action of a vertical acceleration equal to one-fifth and one-third the acceleration of gravity respectively.

11951. (J. YOUNG, M.A.)—Prove that the chance that the dealer and his partner at whist hold the four honours in trumps is greater than their chance of holding the four honours in any given suit (*e.g.*, hearts) in the ratio 5:4.

11952. (C. BICKERDIKE, B.A.)—A person in his sitting-room observes a person walking along the street, when suddenly the upper half of the person appears to make (nearly) a semi-somersault, after which the lower half appears to move much quicker to bring the body into proper position. Queried the cause of the optical illusion.

11953. (J. H. GRACE.)—Prove that, in any triangle, a focus of the maximum inscribed ellipse is the symmedian point of its pedal triangle.

11954. (R. W. D. CHRISTIE.)—In triangular numbers, prove that if $z = \frac{1}{2}(a+b+c+d)$, then

$$\begin{aligned} (1) T_{a+n} + T_{b+n} + T_{c+n} + T_{d+n} &\equiv T_{z-d+n} + T_{z-c+n} + T_{z-b+n} + T_{z-a+n}; \\ \text{and } (2) T_{a+n} + T_{b+n} + T_{c-n-1} + T_{d+n} &\equiv T_{z+n} + T_{z+n-(c+d)} + T_{z+n-(b+c)} + T_{z+n-(a+c)}, \end{aligned}$$

where a, b, c, d, n are any integers whatever, and Σ not necessarily integral. $\{T_x = \frac{1}{2}x(x+1)\}$.

11955. (R. KNOWLES, B.A.)—Tangents TP, TQ are drawn to meet a parabola, vertex A, in P and Q; if O be the orthocentre of the triangle TPQ, and θ_1, θ_2 the inclinations of AO and PQ to the axis, prove that $\tan(\pi - \theta_1) = 2 \cot \theta_2$.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a *separate* paper (otherwise, when used for printing, the Editor has the labour of entirely *re-writing* such articles); (b) to make their Solutions as short as possible; (c) to send all Questions *early in the month*, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to *prepay* the postage in full; and (f) to send all communications to

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NOTICE.—Volume LVIII. of the "Mathematical Reprint" is now ready, and may be had of the Publisher, FRANCIS HODGSON, 89 Farringdon Street, E.C. Price, to Subscribers, 5s.; to Non-Subscribers, 6s. 6d.

LONDON MATHEMATICAL SOCIETY.

Thursday, April 13th.—Mr. A. B. Kempe, F.R.S., President, in the chair. Mr. T. S. Barrett was elected a member, and Mr. T. R. Lee was admitted into the Society. The President mentioned that he had obtained permission from the Council, for reasons which he stated, to alter the title of his paper, read at the January meeting, by substituting "Sylvester-Clifford" in the place of "Clifford" only.

The following communications were made:—

"Toroidal Functions," Mr. A. B. Basset, F.R.S.

"Some Theorems connected with the Inscription in one of two given Triangles of a Triangle similar to the other," Mr. J. Griffiths, M.A.

"The Singularities of the Optical Wave-Surface," Mr. J. Larmor, F.R.S.

"On a Problem of Conformal Representation," Prof. W. Burnside, M.A.

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The Educational Times.

COLLEGE OF PRECEPTORS.

EVENING MEETING, MAY 17TH, 1893.

The Chair having been taken by W. BROWN, Esq., B.A., Dr. R. WORMELL, M.A., F.C.P., read the following paper on

THE RELATION OF THEORY AND PRACTICE IN EDUCATION.

Let me indicate the aim of my paper. I intend to show that there is a theory of education which is helpful to practice but almost useless without it; that, reciprocally, the theory is revealed by intelligent practice; in other words, that theory and practice in education constitute a partnership which is indissoluble; that this theory is describable by only one of the ordinary meanings of the term "theory," and that not the commonest; and, finally, that in the present state of our knowledge it is of the utmost importance to acknowledge the dependence of theory on practice.

Now, I have asked myself how a pedantic pedagogue ought to attack such a subject, and have resolved to proceed in the orthodox fashion, and at the outset to refer you to the dictionaries.

Suppose, therefore, that from this point the dictionary is open. There we find that the word "theory" is just such a word as helps and pleases the casuist. It has many significations and shades of meaning.

1. "Theatre" and "theory" both have the same root. They both have fundamentally something to do with lookers-on. "Theory" should mean the true account of a thing given by an observer. But early in its history it came to involve an invidious contrast. The lookers-on were not actors, they were not workers, and they grew to think the actors and workers existed only for their especial pleasure.

2. In their second meaning, therefore, theory and practice could not be indulged in by the same person. The Greeks placed them in opposition, as denoting mutually inconsistent ideas. Hence they conceived the fallacy of a double system of laws in science: one theoretical, rational, discovered by contemplation and applicable to celestial, indestructible objects (the study of this system of laws they considered a noble occupation); the other practical and mechanical, discovered by experience and applicable to terrestrial and destructible bodies, the pursuit of which they considered was ignoble and vulgar. Physical theories, then, might be but empty dreams at variance with every-day observation.

It is not to be wondered at that such a practical working people

as the English are should have turned the tables on the theorists, and learnt to distrust mere theory, according to this its second meaning, as tending to make, not doers, but talkers.

I need not say that it is not this "bookish theorick" which I want to make use of, although I must admit that it is to be found even in education. Have we not educationists who are the on-looking theorists, and educators who are the workers; and do not the former frequently cultivate empty and mischievous dreams, and do they not look down on educators as men and women of a lower order—as men and women who perform for their pleasure or amusement? You will find such theorists on School Boards, County Councils, and Chambers of Commerce, posing on platforms, and even occasionally putting themselves in evidence in the Senate. Their "theory" is often but a baseless conjecture about things educational, which very often entirely misses the truth. They are always quite sure they have struck into the right path, and want us to leave the high road and follow their indication along roads which they have never explored; or they want us to cease to build on the foundations which, slowly, laboriously, and painfully, have been prepared in the past centuries, and to build on a foundation as uncertain as the clouds. With theorists of this kind we are not unnaturally impatient; but this experience ought not to lead us to despise theory, in its first meaning, as the result of attempts to see education in its parts and as a whole, and to learn about it all the truth our intellectual vision will gain for us.

3. Thirdly, we come to the modern use of the term in the physical sciences.

Here, when we fix on two phenomena that seem to us to be related as cause and effect, but have not been able to observe them with such care or for such a length of time as will make the assigned relationship a certainty, the statement of the proposed connexion is termed a theory. Hence, in physical science, a theory is a highly probable supposition with regard to the sequence of phenomena, which embraces all the circumstances known to attend them.

We test a theory generally by experiment—that is to say, by trial and observation. Sometimes we have to be content with observation only, as with the phenomena afforded by astronomy. We can, however, often produce a given phenomenon at will, and so choose our own time and circumstances for tracing out its cause or effect. To produce a phenomenon for this purpose is to make an experiment.

This kind of theory is the nearest match, in pattern, tone, and tint, to what we want. Dependence on observation and experiment characterizes physical science, and it also characterizes the science of education. My purpose is to establish in your minds the dependence on experiment. Some would treat it as they are compelled to treat astronomy, and simply make it a science of observation. That is an error, for educators can collect or produce conditions and trace the consequences. We can make experiments in teaching. Indeed, until the theory is tested by experiment, it is unreliable and useless.

Coleridge, in his "Table Talk," having shown how theory helps investigations, although it cannot invent or discover, adds: "The only true theories are those of geometry, because in geometry all the premises are true and unalterable." No doubt geometry is far up on the mountain of truth, foremost of the sciences devoted to truth. But the science of education has already begun to scale the same mountain. Its theories are growing to be like the theories of geometry in stability and certainty; yet it differs from them in one important respect which it is part of my main purpose to insist on. The science of geometry may be studied as a purely deductive science—as an educational instrument only—without reference to, or any intended bearing on, an art of any kind. He who masters the proposition, "To bisect a given rectilinear angle," may never need to make a design or draw a plan, and may have no intention of applying the fact in any way. He learns it as an exercise of the faculty of reasoning, according to the principle that faculty grows by exercise.

Now, the science of education has not yet passed the inductive stage. Whatever may be the case ages hence, it cannot now be studied as a means of mental discipline. It is required only for the perfecting of the art of teaching, from which it cannot at present be separated.

Here, you see, I am bringing other words into the argument. Naturally enough, the notions of "theory and practice" have led to an encounter with the two other terms, "science and art." What is the relation between theory and practice, science and art? Everybody knows we associate art with *doing*, science with *knowing*.

Dr. Whewell distinguishes between them thus:—"The principles which art involves, science alone evolves. The truths on which the success of art depends lurk in the artist's mind in an undeveloped state, guiding his hand, stimulating his invention, balancing his judgment, but not appearing in the form of enunciated propositions."

Now, the enunciated propositions or general principles of the science of education constitute the theory of education. The science discovers and treats of the fixed principles which should guide the practice of education, and which, when formulated and set in order, constitute the theory. Practice is the assiduous exercise of the art. The practice of the art of education contains, for eyes that can truly see, the principles which govern its action, and our contention is that we must evolve the principles of education from observation coupled with the practice of education. Then, when we have duly expressed these principles and stereotyped the formulæ, we have the theory.

Again, there are two other words which have been made to have more or less of the same relationship as theory and practice, and science and art, namely, knowledge and skill. In ordinary occupations, both knowledge and skill are wanted, but the relative importance of knowledge, though always real, is greater in some occupations than in others. The art of education, like the art of surgery, requires great skill, but this skill in both cases must be directed by a knowledge of the human subject on which the art is exercised. This knowledge cannot make up for want of skill, but skill would be worse than useless without knowledge. When a great surgeon dies, his skill perishes with him, but his knowledge lives on in the possession of his successors. Mr. Quick, in his famous Leeds lectures, dwelt on these points, and said, in other words, what Professor Payne had said before, namely, that in that day teaching was not recognised as one of the occupations where knowledge is needed as well as skill. But even Mr. Quick, in dwelling on this, seemed to distinguish and separate until, for the moment, he made it appear that knowledge was to be sought first and skill afterwards, whereas both grow together. In education they are each nearly useless when separated, and from the day when there is just a little knowledge and just a little skill, they should grow together.

The late Mr. William Ellis, in his "Phenomena of Industrial Life," associates something else with knowledge and skill. This is what he says, in building up his science of economics:—"If nobody had worked in the past, nobody could subsist now; and, if labour were discontinued, the means of subsistence would soon disappear. It appears, therefore, to be indispensable for the well-being of mankind that the ability and disposition to labour should prevail widely. We have a name for those men who labour cheerfully and assiduously—we call them "industrious"; we say they possess industry."

"The cause of the superiority in directing industry which distinguishes the modern European, and which makes his labour so much more productive than that of the savage, is what we call 'knowledge.'"

"There is another accompaniment of industry, something so closely united with knowledge as often to appear inseparable from it. In order to be as successful as possible, the industrious man must not only know when and where to direct his labour, but how to apply it."

"To this ability of applying the resources proffered by knowledge in aid of industry, a name also has been given—'skill.'"

Now, if we can follow Mr. Ellis's order, and say that the first essential on the part of the educator is industry, I do not care to what extent you give preference, priority, or superiority of importance to either of the two other essentials, knowledge and skill: industry is the parent of both knowledge and skill.

Skill is the faculty resulting from the assiduous industrious mixture of theory and practice.

In our professional work, knowledge and skill should grow together, and continue to abide together and to walk abroad hand in hand. It is not the case that knowledge must be sought first and skill afterwards, or *vice versa*. I mean, of course, professional knowledge. I am not speaking of the knowledge of the subject to be taught. An adept in his subject may be a novice in the art of teaching it. But this contention of mine will be still more evident if we examine what is the science or the theory, what the art or the practice.

Here you may lay aside the dictionary.

It must be clear to you that there were some good teachers before there was the trace of any attempt to formulate the principles of their methods.

Their practice developed their methods, and out of the recog-

nition of the methods by them, there grew slowly and gradually the statement of principles. These appeared one here and another there, one by this teacher and another by that, one in one century, another in the next, until at last there was sufficient to admit of generalization.

It was seen that all the substantiated principles were those of the methods of an educator who was not at first recognised.

The child, the most helpless of animals, is never left without education.

While meaner things, whom instinct leads,
Are seldom known to stray,

the heir of all the ages is left to find his way by groping and straying, and returning to start anew when the right path is found.

The infant has no such safeguard as instinct; it has only certain capacities, and certain laws of development; and an educator takes it in charge almost from the first. This educator is always at work, always developing faculty, always leading to the acquisition of knowledge, always securing positive results.

Our observations, therefore, can begin by our investigating the process when the child is the pupil and nature the educator.

The results of such observations constitute the natural theory of education, which grew up under the educational reformers of the last three centuries.

I will not trouble you with a list of contributors, but for my purpose I shall mention two remote, Rousseau and Pestalozzi, as I have already mentioned two near, Payne and Quick. Rousseau grasped, as no preceding reformer had grasped, the idea which had been growing for centuries, namely, that in education we must follow nature's methods. He allowed his theory to drift away from practice, and, although the most uncompromising advocate of a sound foundation for the theory of education, he ran his theory wild because he did not check it by experiments. Hence, as some one has said, he became "a voice and nothing else."

Though others had indicated the starting-point of the science, Rousseau was the first to base education entirely on a study of the child to be educated. Rousseau first pointed out as a result of observation the intimate relation that exists between children and the material world around them.

But his separation of theory and practice led him to ignore the fact that nature may be directed and subjugated to our needs. He was somewhat like Rossetti in recent years, who had no taste for a cultivated garden. Rossetti preferred the wildest plot of weeds, and even sowed thistles and briars broadcast, that he might see in his back garden the beauty of unrestrained nature. So with Rousseau. We ask: "How shall we educate a child up to twelve?" Rousseau answers: "Do nothing and let nothing be done."

A very different man was Pestalozzi. He caught Rousseau's notion respecting the foundation of the theory of education, but it was not in his hands a barren idea. He was a worker, a practical philanthropist, who laboured heart and soul to benefit his fellow-creatures. Pestalozzi was a worker, Rousseau was but a vain and insincere writer. Rousseau had done all he wanted with his theory when he had led men to read it, and they read it chiefly because it was an attack on existing customs, and it was the craze of his day to make war against current customs. Pestalozzi, by practice, corrected and perfected that theory so that it conveyed a better and higher conception of education than had ever before been achieved. "Nature," said he, "develops all the human faculties by practice, and their growth depends upon their exercise."

He bade us inquire what are the child's faculties, how they have been developed, to what extent they are still capable of development, and what is the divine intention with regard to them. In this way he firmly established the foundations for a science of education.

This has been developed in our day by two of his most devoted disciples, whose names I have already mentioned, Professor Payne and Mr. R. H. Quick. I never mention or think of these names without feelings of profound reverence for the men who bore them. I call to mind how, against much discouragement, they preserved their love for education, and with untiring zeal sought to make teachers think more deeply on what they were doing and why they were doing it. Both these men found it difficult to get teachers to admit the possibility of a science of education.

Professor Payne said: "One of the greatest impediments to any attempt to expound the principles of education lay in the unwarrantable assumption, on the part of teachers, that they had nothing to learn on the subject."

Mr. Quick was likewise disheartened for a time by the indifference of teachers to the questions.

It was about the date at which Mr. Quick began his lectures that Mr. Robert Lowe said there was no such thing as a science of education, and, still more, there could not be and should not be such a thing, and a professorship of education would be an absurdity.

In combating this inertia and incredulity, both professors, as I have said, seemed to separate the inseparables. But a few years have made a difference in this respect. Now the principles which they taught are so widely accepted that we need not stay to demonstrate their possibility.

It is, perhaps, still true that here and there there are distinguished proficient in the art of teaching who have failed to recognise the correlated science. They are unconscious of the fact that in their practice they obey certain laws, and it is their unconscious obedience to these laws which renders them so proficient.

Imagine yourselves observing one of these experienced and skilled teachers. He finds the memory of his pupils has failed to retain some piece of knowledge, and he sets about helping them. He combines associations, he draws comparisons and contrasts, he requires repetition. Ask him why. He will reply: "To fix the thing in the memory." He acts on a principle, and that principle is an element in the theory the existence of which he hesitates to admit. You see him deal with a case of imperfect attention. His questions and remarks arouse an interest in the subject, and the attention improves at once. He again follows a principle of natural education. Watch him as he encounters a pupil with a difficulty. He helps the pupil to recall some half-forgotten knowledge, to collect and arrange his mental tools, and then he bids him renew his efforts to find the solution. Ask the teacher why he did not solve the problem for the lad out and out. He will answer: "What good would that do him?" He applies there the central principle of the theory of teaching, namely, that the pupil must make the knowledge his own by the exercise of his own powers, that the function of the educator is that of a stimulator, a provider, a director and superintendent of the learner's work, and to that office he is to confine himself. Watch such a proficient in the art of teaching examining the class of an inexperienced assistant. The class fails, and the assistant says, "I thought they knew it, I told them all about it." What reply does he receive? Why, a paraphrase of the law I have quoted—"You have not let them do it for themselves; you cannot learn for them." Therefore I say that, unconsciously, such a proficient, in practice, follows the principles of the theory. What, then, are the advantages of giving these principles a distinct expression? We shall see.

The natural theory of education starts with a few such principles as the following:—

1. Every child is capable of action, and surrounding material objects stimulate it to action.
2. The external stimulants act through the organs of sense.
3. The sensations are the fundamental elements of knowledge.
4. The development of the mind begins with the reception of sensations, and proceeds by the formation of ideas.
5. Natural education is the action and reaction between the external stimulants and the mind's power, causing growth and development.
6. When nature is the educator, the laws of the learner's being govern the educator's action, and determine what he does and what he leaves undone. He ascertains, as it were, from the child himself how to conduct his education.

Now, all this has some meaning for the teacher who can take a little of it at a time and apply it—who only wants it that he may apply it. But without practice it is not knowledge.

Consider the external stimulant, for instance. That which will stimulate one child at one time will not necessarily stimulate another, or even the same child under other surroundings; and practice in education alone can lead to the necessary discrimination which will apply the principle effectively. Then, again, we need not wait until the external stimulants appear naturally; we can produce them, make them, invent them, or check and remove them. The pupil's surroundings may over-stimulate, as was recently the case in the Rugby long races. Hence any of these principles have little meaning and little moment without practice. Immediately the principle is put into words for the student-teacher he needs to make it his own by applying it. Indeed, the theory of education generally should be the theory of his own education. Here is the principle, as stated by Professor Payne—"The learner's ideas must be incorporated with the learner's mind, and become part of his being. Words are the conventional signs,

the objective representatives of ideas; and their value to the learner depends on his possession of the ideas they represent. The words without ideas are not knowledge to him."

The notion that education is a process of cultivation further helps us to see how necessary it is that practice should combine with theory. The horticulturalist who has learnt by observation nature's methods, can assist the process of growth and development, and sometimes even control them. So also can the educator. The giving of this assistance is the purpose of education. It is education.

The varied nature and degree of the assistance required, in individual cases, constitute one of the reasons why theory should be studied by means of practice.

Theory states only what appears to be universal.

Practice reveals and deals with individual differences.

Theory, when once you allow it to be separated from practice, would deal with minds as if all were alike.

Men and women are tall or short or neither, blonde or dark or neither, well-favoured or ill-favoured in countenance or neither; yet no two, if we except such a *lusus naturæ* as the Corsican Brothers, are exactly alike, either in appearance or constitution. Similarly no two are exactly alike in mind or temperament.

Practice alone can show how to recognise the conformity in the midst of this diversity, and to meet the demands of the latter while following the laws of the former.

Now, to what parts of our professional work does the theory apply?

You may ask: What about those who have not to teach young children at all, but youths and maidens, young men and young women? Are they to be required to study the development of faculty in little children?

No doubt, in the cases of older and more advanced pupils, the mental processes which lead to mental development are not so evident; they are often masked or hidden, and a more subtle search is required to find and expose them; yet they are to be revealed, and those who have had opportunities of following the growth of many pupils from childhood to maturity, and from maturity upwards, recognise the identity of the principles which are applied, consciously or unconsciously, from without the pupil or from within, at different stages. Such observant teachers will admit the advantages of being able to work with a sure foundation.

What shall we say of the college tutors? At first sight one is not sure we need consider them. They are, as a rule, creatures with large "carrying capacities"—elevators it may be, but not educators. Their business is to communicate their own knowledge. They rarely trouble their heads about the development of faculty, unless it be their own carrying and examination-tapping faculty. Hence, they can do without training, without either theory or practice in teaching. So it might be; and yet what power they might acquire if they would but become teachers as well as tutors! What power is already in the hands of the few who have earnestly and honestly entered our profession and become teachers as well as tutors!

How is it that the education of the older Universities is so valuable for the formation of character and development of faculty? Because it is strictly in conformity with the natural theory I have enunciated. The inimitable environment is the essential element.

Within the last month I found myself for the first time a resident in an Oxford college—a guest for a day or two of the tutor. Would that every teacher could have the same opportunity; then should we all understand this natural theory of education, and believe in the paramount influence of the student's environment. I can assure you that this influence on myself was so persistent that at night I dreamt Oxford had invited me at fifty-four to become an undergraduate, that, with a great but natural thirst, I drank deep at a pure fountain of learning, and was one of the happiest beings in the universe. Delicious but delusive dream! Nevertheless, most assuredly these ancient seats of learning operate by the natural laws which I have enunciated.

Well, then, it seems that no portion of the educational machinery is outside the theory of education. The same laws apply in every part, from base to crown. My own observations tell me that, looking all the way from Kindergarten to University, the highest excellence is found where there is most implicit obedience to the laws of the learner's being.

But to return to my promise to name the advantages of the theory as an addition to practice. The search for principles tends to exclude empirical methods. Connexions between the

principles will appear almost as soon as they are put into definite words. A common foundation is ultimately found for them which reduces them to order. Then they begin to eradicate what is unsound in practice. Let me illustrate by reference to Newton's "Laws of Motion." If they were to be applied only in cases where it could be proved by experiment that they were true, there would be little good in enunciating them. Each case thus might be trusted to carry its own law. But when the law has been found to hold good in many experiments, then it may be applied where it cannot be proved. So the skilled teacher, who acts naturally in many cases, is benefited by the distinct recognition of the principles he applies, because he can then use the same principles where otherwise he would be without a principle. Hence it follows that, when the theory and practice are combined, sequence and co-ordination of parts replace disorder and irregularity, and a settled purpose replaces aimlessness in practice.

And, as I have already pointed out, the skill in teaching which one generation of teachers has attained may perish with the teachers, without making it easier for the next generation to attain a greater skill. But the theory on which the most skilful teachers proceed may be transmitted, and then a higher skill for the next generation becomes easily attainable.

Well, my subject is a large one. It may have been unnecessary with such an audience to enforce the fact that there is a theory for the teacher's guidance; but I think there are reasons why I should now preach the mutual dependence of theory and practice. The bearing of this on the question of the training of teachers will be evident. No substitution of a mere bookish theory, which can be studied along with other subjects at the University, will do away with the necessity of practice, and a training involving practice.

Theorists of the sort I tried to brush aside at the outset may say all sorts of things to hinder us. They have even said that it is not well that young teachers should live together and be trained together in specialist colleges—for this tends to make them a peculiar people, engrossed by one subject and one idea. All we can say to such theorists is: Stand out of our way—don't hinder.

Let me try to be very clear on this point. It is true of all men and women that a narrow exclusiveness, a too circumscribed routine of work, or a too close application to one set of interests, tends to weaken, to paralyse, to degrade. Much seclusion is harmful; while, on the other hand, "as iron sharpeneth iron, so a man sharpeneth the countenance of his friend."

Moreover, it is also true, as Washington Irving has taught us, that every calling has its marks of manner. As these facts apply to all men, we must accept them as applicable to ourselves. But men who would belittle our profession, and the few who are in it but not of it—who are ashamed of it and disown it when they can—exaggerate our oddities, our mannerisms, our professional marks, our narrowness, our priggishness, our imperiousness, our impatience of contradiction. They advise us to hide the robe, never to talk shop—neither to walk in the way of the schoolmaster nor to sit in the seat of the pedagogue.

But as teachers we can look at the other side of this question. The labourer whose hand is hard and horny can at least boast of having toiled. The labourer whose hand is not disfigured by any excrescence cannot have done much work. The schoolmaster who carries no mark of a schoolmaster cannot be worth much as a schoolmaster. He who has done good work amongst us must needs carry the marks.

Dr. Weildon has recently revived a beautiful story, that was told, I think, first in *Chambers's Journal*, of an old Scotch dominie named Adams. This old schoolmaster, as he lay on his death-bed and the shadows closed around him, was heard to whisper: "It is growing dark, boys; you may go." The story is beautiful in several respects; but to my mind its chief beauty has always seemed to lie in its exposition of the true meaning of that professional mark—or, as some choose to think it, professional blemish—namely, in the persistent thought of school and scholar when all else has faded from sight and from memory.

Now, in my opinion, as Paul gloried in his infirmities, as a soldier glories in his scars, so ought the practical teacher to glory in the signs and consequences of his calling. As easily can a regiment which has done noble deeds and carried its standard with unspotted honour through many campaigns against ignorance, barbarism, slavery, and oppression, be ashamed of that standard, as any association of genuine teachers can be ashamed of their professional peculiarities. I don't accept the objection which has been urged as an argument against training colleges, nor do I count an absorbing interest in one's profession as a blemish.

In conclusion, let me again quote Mr. Quick. He described a trained teacher as "one who has acquired not only skill in actual teaching, but also knowledge, both theoretical and practical, by making a scientific study of education."

Accepting this definition, I suggest that a perfect system of education is one in which all teachers are well-trained teachers. When this state of things shall be found in England, the science of education will be widely and profoundly studied, the art will conform to the science, and both will be completely mingled in the practice of all educators. Then will arrive a Millennium in regard to education.

Mr. SMURTHWAITE remarked that knowledge could not effectually be forced into boys, and that, in order to get them to learn, it was absolutely necessary to interest them in their work, for thus would study be made a pleasure. He found that the less he told his pupils the better; children had the power of educating themselves, and the master should simply endeavour to help them to do so.

Mr. OLDFIELD said that the essential matter was to combine theory with practice, though, at the same time, it could not be denied that most of our best teachers had been more versed in practice than in theory. He thought that, in order to succeed, it was most important that teachers should have to do with quite young children, and to this he ascribed the relatively greater aptitude of women than men in the art of teaching. With regard to the training of teachers, he preferred what was called the "probationer" method of learning to teach by observing the methods of skilled teachers, rather than the training to be acquired in a special training college. It appeared to him that the great value of the teacher did not consist wholly in his being wrapped up in his pupils, but that he should possess a wide knowledge of the world, and bring its lessons and experiences to bear on the life of the schoolroom.

Mr. SPRATLING confessed to being sceptical as to there being a theory of education at all in the proper sense of the term. He conceived that a science of education must be founded on experiments, from which educational principles were evolved by an inductive process, as in the case of the experimental sciences. In the extreme diversity of the minds of children, he did not see how any theory could be of material assistance to the teacher. He believed rather that the faculty of teaching was a true gift of nature, and he that was without the faculty would in vain strive to make himself a teacher by study of what was called the theory of education.

Mr. ORCHARD remarked that most of them would be of opinion that theory and practice should go hand in hand. The teacher who had no theory would teach aimlessly; but it was by actual contact with varying minds and dispositions that the educator must learn how to correct and modify his theory, and must ascertain the limits of its application. The ancient pedagogic error consisted in forming some cast-iron theory, irrespective of practical value; then, taking such educational standard from the study into the schoolroom, endeavouring to make each youthful mind square with the preconceived idea. To this succeeded a reaction to the opposite, but not less mischievous, error of empiricism, the unhappy pupil being a *corpus vile* upon which the charlatan exercised his tentative skill as he carried on his trade. It was well to set out with some theory, framed upon right principles, combined with all carefully ascertained and reliable results of experience. But the theory must be flexible, admitting of correction, adjustment, and continuous improvement, through practical work. Thus, not only would the pupil learn from the teacher directly, but also indirectly through that which he had himself taught. Whilst concurring with the lecturer's valuable remarks as to environment and suitable stimuli, he would point out that environment and stimuli were useless unless responded to by the intelligent will of the boy or the girl. The secret of education consisted in one word, co-operation.

The Rev. C. BROOKE said he was aware that training colleges had their practising schools; but he considered it more necessary that the student-teacher should himself be actually engaged in teaching, and that the master of the school should every now and then look in upon him, and criticise his work. It was desirable that the young teacher should have the stimulus of responsibility. Curiosity was a great aid to learning, and the important point was to turn this propensity of the pupil into regular channels. With regard to what had fallen from the first speaker, he did not see how the lesson was to be made interesting to every member of the class, and a certain amount of drudgery in teaching was inevitable. Large-mindedness was a very important quality to cultivate in the teacher; and here he thought the special training of the elementary teachers was narrowing in its effects, and likely to induce mannerism and a too slavish adherence to routine.

The CHAIRMAN said the lecturer had referred to the abuse of the term "theory," and had spoken of theorists outside the scholastic profession, on school boards, county councils, &c. There was, he (the chairman) believed, this great danger confronting them in the future—that if they allowed the education of the country to remain in the hands of those who were theorists and not educationists, and if they allowed the great question of secondary education to be settled by theorists and not by educationists, such mischief would be done to the cause of education that a generation would not undo it. With reference to the remarks of one of

the speakers, he could not understand how any teacher could stand up and assert that theory was useless in education. If the teacher had no theory to guide him, and simply built upon his individual experience, it was a bad look-out for the children under his care while he was acquiring his experience. He did not at all agree with the last speaker in his remarks as to the training of the elementary teachers; indeed, he considered they were the only teachers in the country who could lay claim to being properly trained for their work, and from his personal experience of them he could affirm that they were eminently successful, regard being had to the extremely unfavourable conditions under which they had to work. He had been greatly impressed by one of the many striking thoughts of the lecturer—that as to the persistent thought of school and scholars that should pervade the mind of the teacher—and it reminded him of the case of the teacher who kept a note-book by his bedside in order that he might jot down in it any thought that might occur to him bearing on his work.

Dr. WORMELL having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

EDUCATIONAL NOTES AND SUMMARY.

THE second lecture on the Romanes Foundation was delivered at Oxford on Thursday, May 18th, by Professor Huxley, the first, it will be remembered, having been given by Mr. Gladstone. Its subject was "Cyclical Evolution and Ethical Man," and its main contention that the ape and tiger methods of the struggle for existence are not reconcilable with sound ethical principles. After tracing ethical development from Buddha to the Stoics, the Professor concludes that "modern thought is making a fresh start from the base whence Indian and Greek philosophy set out; and, the human mind being very much what it was six-and-twenty centuries ago, there is no ground for wonder if it presents indications of a tendency to move along the old lines to the same results. We are more than sufficiently familiar with modern pessimism as a speculation. We also know modern speculative optimism, with its perfectibility of the species, reign of peace, and lion-and-lamb transformation scenes; but it is to be met with more commonly at the tables of the healthy and wealthy than in the congregations of the wise. The majority of us, I apprehend, profess neither pessimism nor optimism."

"THE destruction of speculations continues by the exposition of another fallacy which pervades the so-called 'ethics of evolution.' It is the notion that because, on the whole, animals and plants have advanced in perfection of organization by means of the struggle for existence and the consequent 'survival of the fittest,' therefore men in society, men as ethical beings, must look to the same process to help them towards perfection. I suspect that this fallacy has arisen out of the unfortunate ambiguity of the phrase 'survival of the fittest.' 'Fittest' has a connotation of 'best'; and about 'best' there hangs a moral flavour. In cosmic nature, however, what is 'fittest' depends upon the conditions. Long since I ventured to point out that if our hemisphere were to cool again, the survival of the fittest might bring about, in the vegetable kingdom, a population of more and more stunted, and humbler and humbler, organisms, until the 'fittest' that survived might be nothing but lichens, diatoms, and such microscopic organisms as those which give red snow its colour; while, if it became hotter, the pleasant valleys of the Thames and Isis might be uninhabitable by any animated beings save those that flourish in a tropical jungle. They, as the fittest, the best adapted to the changed conditions, would survive. The practice of that which is ethically best—what we call goodness or virtue—involves a course of conduct which, in all respects, is opposed to that which leads to success in the cosmic struggle for existence. In place of ruthless self-assertion, it demands self-restraint; in place of thrusting aside, or treading down, all competitors, it requires that the individual shall not merely respect, but shall help his fellows; its influence is directed, not so much to the survival of the fittest, as to the fitting of as many as possible to survive. It repudiates the gladiatorial theory of existence. It demands that each man who enters into the enjoyment of the advantages of a polity shall be mindful of his debt to those who have laboriously constructed it; and shall take heed that no act of his weakens the fabric in which he has been permitted to live."

THE professor scarcely lifts his hearers and readers from the despondency which all this destruction of theory produces, by his

positive teaching. It is all contained in the following paragraph, for which it would not be difficult to find a parallel in very old-world philosophy:—"I see no limit to the extent to which intelligence and will, guided by sound principles of investigation and organized in common effort, may modify the conditions of existence for a period longer than that now covered by history. And much may be done to change the nature of man himself. The intelligence which has converted the brother of the wolf into the faithful guardian of the flock ought to be able to do something towards curbing the instincts of savagery in civilized men. But if we may permit ourselves a larger hope of abatement of the essential evil of the world than was possible to those who, in the infancy of exact knowledge, faced the problems of existence more than a score of centuries ago, I deem it an essential condition of the realization of that hope, that we should cast aside the notion that the escape from pain and sorrow is the proper object of life. We have long since emerged from the heroic childhood of our race, when good and evil could be met with the same 'frolic welcome'; the attempts to escape from evil, whether Indian or Greek, have ended in flight from the battlefield. It remains to us to throw aside the youthful overconfidence and the no less youthful discouragement of nonage. We are grown men, and must play the man—

'strong in will

To strive, to seek, to find, and not to yield,'

cherishing the good that falls in our way and bearing the evil, in and around us, with stout hearts set on diminishing it. So far, we all may strive in one faith towards one hope:—

'It may be that the gulfs will wash us down,

It may be we shall touch the Happy Isles,

. . . but something ere the end,

Some work of noble note may yet be done.' "

AN interesting addition has just been made to the number of strikes already in progress in various parts of Austria—namely, that of the students at the Universities of Innsbrück and Gratz. The commander of the Tyrol having issued an order forbidding all students who have been accepted as fit for military service, as well as officers of the reserve who have passed through the army, to belong to any of the students' societies, and requiring them, if already members of such societies, to withdraw from the same, the students at Innsbrück applied to the University authorities for leave to hold a meeting to protest against this measure. The Principal gave his permission, but the meeting was subsequently forbidden by the Ministry of Education, with the result of embittering the conflict between the authorities and the students, who have *en masse* ceased to attend the lectures at the Innsbrück University. This, however, was but the beginning. As the action of the military commander threatens the very existence of the ancient institution of colour-bearing student societies, the movement immediately spread, being first taken up by the University of Gratz, where the students have also struck. From the course taken by the agitation here it seems likely that the Viennese students, who are entirely at one with their fellows in other parts of the country, will join the movement as a protest against an encroachment on what they consider to be an immemorial privilege and on their rights as citizens. A curious feature of the situation is that the various University towns appear to be in sympathy with the action of the students. Questions have been asked in the Upper Austrian Landtag on the subject, and the Government has been urged to have the order rescinded. One result of the agitation in Vienna has been a close union of all classes among the students without distinction of nationality or political opinion.

THE Old Paulines' memorial against the new scheme for the management of St. Paul's School is signed on behalf of the general body of Old Paulines by Mr. Baron Pollock, Sir Frederick Halliday, the Archdeacon of St. Albans, Canon Carver, Judge Eddis, and others, and has been forwarded to the Charity Commissioners. The memorialists heartily concur in the extension of the benefits of the Colet endowment, and approve the proposed establishment of the two new schools for boys and girls which were described by us in our April number, but they earnestly appeal to the Commissioners not to impair the acknowledged success and usefulness of St. Paul's School by the diversion of funds necessary to its efficiency. They urge that £8000, the income assigned to the school from the Colet endowment, is inadequate to maintain it at its present high level; that there are the gravest objections to the proposal to

withdraw one-third of the foundation scholarships from open competition; and that the £1000 appropriated for exhibitions is wholly insufficient for the school as at present constituted.

A COMMITTEE has been formed under the name of the School Gradation Committee, with an office at 50 Parliament Street, having for its object to promote the systematic and consecutive gradation of schools and Universities, and to supplement the valuable work of recent years in respect of technical instruction by an effort to bring all effective schools and colleges, whether specialized or not, within a comprehensive national scheme. It is thought that this may be most economically done, with the minimum of interference, centralization, and narrowing uniformity, by the recognition and encouragement of existing effective schools, and by using available resources under local control mainly to facilitate the ascent of pupils from lower to higher grades. The Committee includes:—Lord Reay (President), Lord Edmond Fitzmaurice, the Hon. E. Lyulph Stanley, Sir A. Hayter, M.P., Sir H. Roscoe, M.P., Sir P. Magnus, Professor R. C. Jebb, M.P., Mr. W. Ambrose, M.P., Mr. G. R. Benson, M.P., the Hon. A. Brand, M.P., Mr. D. Brynmor Jones, M.P., Mr. H. Cozens-Hardy, M.P., Mr. F. Lockwood, M.P., Mr. H. F. Luttrell, M.P., Mr. W. Rees-Davies, M.P., Mr. H. T. Gerrans, and Mr. M. E. Sadler, of Oxford; Professors Meiklejohn, Max Müller, Murison, H. Sidgwick, Sonnenschein, and Steggall; Mr. E. C. Marchant, Mr. T. Raleigh, the Chairman of Convocation London University, the Vice-Chancellors of Victoria and St. Andrews Universities, the Dean of the College of Preceptors, the Chairmen of the London, Bradford, and other School Boards, the President and Vice-President of the National Union of Teachers; the Principals of University College, Bristol; Mason's College, Birmingham; Firth College, Sheffield; the School of Science and Art, Newcastle; the Technical School, Sheffield; the Technical College, Bradford; the Municipal Technical School, Manchester; and the Central Foundation Schools, London. Persons in sympathy with the movement are invited to communicate with the hon. secretary.

MR. CHARLES CHREE, Fellow of King's College, Cambridge, has been selected to fill the important office of Superintendent of Kew Observatory. It is one for which the combination is especially needed of high mathematical capacity with a practical experience of the apparatus and methods of physical research. Mr. Chree obtained, in 1884, the hitherto unequalled honour of a first class in the most advanced parts both of the Mathematical and of the Natural Science Triposes, and he has since been much engaged at Cambridge in experimental and mathematical investigations. The results of these are published in the *Cambridge Philosophical Journal* and in the "Philosophical Transactions" of the Royal Society.

SIR P. CUNLIFFE OWEN will retire shortly from the Directorship of the South Kensington Museum. It is stated that the Science Branch of the Museum will be separated from the Art Branch, and that Major-General Festing, F.R.S., who has been for a number of years an Assistant Director, will become Director of the Science Collections. We are informed that the post of Director of the Art Museum has been offered by the Lords of the Committee of Council on Education to Professor J. H. Middleton, Slade Professor of Fine Art and Director of the Fitzwilliam Museum at Cambridge, and has been accepted by him.

At the annual meeting of the Art for Schools Association, which was held on Monday, May 8, at 29 Queen Square, Bloomsbury, some wise words were uttered by Cardinal Vaughan, the chairman for the occasion. "The association," said he, *inter alia*, "had been established to supply the artistic wants of the schools of the country. In so doing it had rendered a great educational service, using the word 'educational' in the widest sense." Mr. J. A. Willis, H.M.I.S., moved the adoption of the report, and Mrs. Westlake in support told the meeting that "she took great interest in the association, as she thought schools ought to be made as attractive as possible to children," an opinion which should be the main plank in the platform of every infants' mistress. It is greatly to be regretted that the society is in debt to the amount of £230, for it undoubtedly represents a movement offering great possibilities with respect to the spreading of the love for the beautiful which is at the bottom of that gospel of "sweetness and light," of

which another inspector, Matthew Arnold, was the enthusiastic apostle.

A LARGE number of representative men have joined to make an appeal to present Mr. George Smith a national testimonial in the form of a gift of money. The aim of the promoters is to raise £3,000 to be put in trust for Mr. Smith and his family. The following is a brief of the appeal:—"Mr. George Smith, of Coalville, has for over a quarter of a century followed in the footsteps of Lord Shaftesbury, to rescue and bless the toiling millions of children of our land. Twenty years ago he gave up an income of £450 a year, to enable him to prosecute this work; and he has so far succeeded in ameliorating the lot of some *seventy thousand* British children by the Brickfield and Canal Boat Acts. He has now in hand a similar work for over 50,000 gipsy and van children, in promoting the Movable Dwellings Bill, which we must help him to persevere with. He is now in the sixty-third year of his age. He is in much need of help, and is worthy of it. We think it is wiser to help a man while he is living, and at work, than to erect a monument because of his noble deeds after he is dead. Edwin Lawrence, Esq., 10, Kensington Palace Gardens, London, W., has consented to act as treasurer, and will receive and acknowledge all cheques."

OVER 15,000 schools in England and Wales are now entirely free. The total sum paid for the year 1892 as fee-grant by the Education Department was £1,842,930. The children in free schools number 3,429,577, and the number paying fees varying from 1d. to 6d. a week is 849,991.

THE Cambridge University Extension Authorities have announced, as part of the programme of their Summer Meeting to be held in Cambridge next autumn, five courses of practical work in science in the University laboratories and museums, the subjects selected being Chemistry, Electricity, Botany, Physiology, and Geology. As the date of the Summer Meeting, July 29th to August 26th, is too early for many teachers in elementary schools, whose holidays fall during harvest time, arrangements have also been made for two courses in Agricultural Chemistry, specially adapted to meet the requirements of teachers sent with scholarships by their respective County Councils. Each course will extend from August 25th to September 12th, inclusive, and will thus include sixteen working days, on each of which several hours' work in the University Laboratory will be provided. One course—conducted by Mr. Fenton, one of the University demonstrators—is intended for students who have done little or no laboratory work but have acquired a knowledge of theoretical chemistry, and will be similar to the course given last year and attended by about 120 County Council scholars. The other course—conducted by Mr. R. H. Adie, one of the Cambridge Extension Lecturers—will be more advanced in character and will be adapted to students who went through last year's course with credit, or have done similar work elsewhere. Accommodation for 120 students can be provided at these two courses.

CHILDREN should not leave school without knowing what good books are, says Dr. Stanley Hall in the *New York School Journal*, and without having their imagination, which is the great power with children at a certain age, so awakened and directed as to ensure at least some degree of interest and culture broader than the education that is limited to their business expectations, and tending to ground conduct on general principles rather than on impulse.

MR. JOHN MORLEY, Chief Secretary for Ireland, has given notice of a Bill to amend the Irish Act of last year, which practically abolished school fees, and will make education compulsory in the urban districts as from next 1st January. The amended Bill, which is exceptionally brief, has for its scope the extension of the provisions of the Act of 1892 to the rural districts. Mr. Morley has evidently become convinced of the force of the contentions urged upon him recently by a deputation from the Central Executive of the Irish National Teachers' Organization.

THE Lower House of Convocation has adopted a resolution to the effect that "it is most important, in the interests of education generally, that the relations between elementary and secondary education should be more clearly defined." The

Dean of St. Paul's, in moving this resolution, made merry over the fact that the Elementary School Code contained provision for the teaching of such subjects as Algebra, Euclid, Physics, Physiology, Latin, Welsh, Hebrew, Navigation, and so on. "After careful inquiry," said Dean Gregory, "he found that the teachers were guided by the idea and thought, 'Which of these subjects is the most easily taught, so that we may obtain the grant?' He (the Dean) had been in conversation with one teacher, who, in answer to the question as to which was the easiest subject, answered, 'Oh, animal physiology. You see we get a bone of some sort, and in this the class become interested, and we cram them with certain answers, and get the grant for them all.' That idea seemed still to prevail, for from the Appendix it would seem that 15,842 scholars were examined in animal physiology recently. He ventured to say that if they had asked many of that number a month afterwards what animal physiology meant they would have been absolutely unable to tell them." The picture is, of course, somewhat over-coloured, for rhetorical purposes; but we fear there is nevertheless a great deal of truth in it.

ABOUT twenty thousand children, with their friends, assembled at the Crystal Palace, on May 6th, to witness the distribution of prizes and certificates awarded to two thousand of their number, including pupil teachers, by the Society for the Prevention of Cruelty to Animals, for the best essays on kindness to animals. The essays numbered 76,617, which is an increase of 7000 upon last year, and eleven times as many as were written ten years ago. Of the 837 elementary schools competing, 607 were Board schools, and of the eighteen principal prizes for girls fourteen were taken by Board schools; and in respect to the boys the Board schools took thirteen out of fifteen principal prizes. The Baroness Burdett-Coutts and Lady Aberdare undertook the somewhat arduous task of distributing the awards, which occupied nearly two hours.

ON Friday, May 12th, a meeting of Welsh Members of Parliament was held to consider the proposed charter for the Welsh University. The only point of controversy which has arisen in connexion with the matter has been whether the University should be merely an examining body, like the University of London, or whether residence in one or other of the Welsh National Colleges should be required as a condition of graduation. The draft charter submitted by the Charter Committee, which is drawn up on the residential and teaching basis, with certain modifications as regards the University Extension movement and theological students, was adopted.

THE demand for Sloyd teaching is still on the increase. In 1891 there was one successful holiday course at Ilkley; last year there were two, at Bangor and Oxford; next August there are to be four. One of these is in connexion with the Summer Extension Courses at Edinburgh, and has Mr. F. C. Herzog for teacher, and Mr. Dickson, 11 Grange Lawn, Edinburgh, for secretary. Miss Andrén's course will be given at Ilkley College, and has for its secretary Miss Ruddock, 2 Holt Hill Terrace, Birkenhead. Herr Danielson (16 Fargate, Sheffield) will, with the assistance of Miss S. Garrett, hold a third at Hereford County School. And Mr. G. E. Gratton will conduct a fourth at Torquay (Secretary, Mr. T. W. Rudd, 32 Fleet Street, E.C.).

THE Charity Commissioners have given notice that a scheme relating to Sir Walter St. John's Schools, and to John Parvin's Workhouse Charity, both of Battersea, has been submitted by them to the Committee of Council on Education, and that any objections to or suggestions in connexion with the scheme must be made to the Committee of Council, in writing, during the next four weeks. The scheme provides that henceforth the foundations and their respective endowments shall be one foundation, under the name of Sir Walter St. John's Schools, controlled by a governing body of thirteen, eight representative, and five co-optative. The schools of the Foundation are to consist of schools for boys in Battersea, carried on in the present school buildings, or in other suitable buildings hereafter to be provided, comprising an upper school, to be called the Battersea Grammar School,

for day scholars, and in the discretion of the Governors for not more than twenty boarders, and a middle school, to be called Sir Walter St. John's School, for day scholars only. Boys are not to be admitted to the school under the age of seven, or to remain in the grammar school after the age of seventeen, or in the middle school after sixteen. The schools and all their advantages are to be open to all boys of good character and sufficient health, residing with their parents, guardians, or near relations. The tuition fees for each boy are to be not less than £6 nor more than £10 a year in the grammar school, and not less than £2 or more than £6 in the middle school. Ten entrance scholarships, each entitling the holder to exemption from the payment of tuition fees, are to be maintained in the grammar school, open only to sons of residents in the parish of Battersea. In the middle school, entrance scholarships with the same advantages are to be maintained at the rate of not more than one scholarship for every ten boys in the school. The important provision is also laid down, that in the award of these scholarships preference is to be given to boys who have been scholars in a public elementary school, and who are sons of residents in the parish of Battersea.

To understand teaching is one thing (says the *New York School Journal*), to know subject-matter is another; the *how* is one thing, the *what* is still another. Not that they can exist wholly separate. The great lack among young teachers is in knowing *how*. When the teacher has become familiar with schoolroom routine, then he lacks in materials. There are those who have an intuitive knowledge of how to teach; their resources are often very very limited indeed, and yet they produce wonderful effects. Payne says: "Jacotot exposed himself to the jeers of the schoolmasters by asserting that a teacher who understood his business could teach what he did not know." And Jacotot was right, for teaching, as he understood the grand word, was not telling; he conceived it to be arousing and directing the mind in the search of knowledge. Jacotot often used the figure of a military leader to show the office of the teacher: "He knows the ground no better than the soldiers, but he inspires them to go forward and search out the enemy; in difficulty, his trained mind advises them what is best to do." So that the art of teaching, as Jacotot attempted to expound it, was not one to be done by ignorant men. He placed teaching among the difficult things to be done by men. What he attempted to do, by the strong assertion quoted, was to show that the claim by certain ones that they could teach a thing because they knew it was not well founded.

THE late Earl of Derby has left by will the following legacies to educational and charitable institutions:—To the University of London, £2000; to University College, London, £2000; to Trinity College, Cambridge, £2000; to Rugby School, £2000; to the Manchester Grammar School, £1000; to University College, Liverpool, £2000; to the Royal Society, £2000; to the Royal Institution of Great Britain, £2000; and to the Royal Geographical Society, £1000. To the Brompton Hospital for Consumption, £1000; and to the Royal Literary Fund, £1000. Lord Derby also bequeaths to the Corporation of Liverpool, in trust for the Walker Art Gallery, £2000, the income to be applied to the purchase of paintings, with a special view to the encouragement of rising artists, and to the Corporation of Liverpool his cabinet of minerals and antiquities with its contents.

THE Cambridge University Extension authorities have already announced as part of the programme of their meeting, to be held in Cambridge next autumn, five courses of practical work in science in the University Laboratories and Museums, the subjects selected being Chemistry, Electricity, Botany, Physiology, and Geology. As, however, the date of the meeting—29th July to 26th August—is too early for many teachers in elementary schools, whose holidays fall during harvest time, arrangements have also been made for two courses in Agricultural Chemistry, specially adapted to meet the requirements of teachers sent with scholarships by their respective County Councils. Each course will extend from 25th August to 12th September inclusive, and will thus include sixteen working days, on each of which several hours' work in the University Laboratory will be provided. One course—conducted by Mr. Fenton, one of the University Demon-

strators—is intended for students who have done little or no laboratory work, but have acquired a knowledge of theoretical chemistry, and will be similar to the course given last year, and attended by about 120 County Council scholars. The other course—conducted by Mr. R. H. Adie, one of the Cambridge Extension lecturers—will be more advanced in character, and will be adapted to students who went through last year's course with credit, or have done similar work elsewhere. Accommodation for 120 students can be provided at these two courses.

WE have received the following memorandum from the Committee on Mental and Physical Condition of Children:—We all know that children are of very unequal educable capability, and vary much in physical strength. Some children have well-made bodies and poor mental capacity—at least for school work—while others are poor all round. Parents, and sometimes even teachers, expect the results of education to be equal, without making allowance for the differences in the material submitted to the processes of training. Disappointment, misunderstandings, and, what is much worse, educational failures, are often due to a want of knowledge of the physical and mental differences among children; and to supply some knowledge on these and kindred subjects a large and representative committee has been formed to inspect children in schools and report on conditions found among them, arranged in groups and classes, quite independent of any preconceived theories as to what should be altered in purely educational matters. Their mode of procedure is to look at each child, and, without asking questions, to note facts seen; then the teachers' report as to mental capacity is written down. Proceeding systematically in this way, a report on 50,000 children, seen by Dr. Francis Warner, has been compiled, and will shortly be published. In this preliminary inquiry, among 50,000 children, nearly 6000 presented bodily defects, over 5000 exhibited deviation from the normal nerve state, 3,600 were reported by the teachers as mentally dull, 2000 were pale, thin, or delicate, 800 appeared to require special care and training, 234 were feeble-minded, and about the same number were crippled or deformed, and 54 were subject to fits. Undoubtedly, defects existing in infancy and childhood unchecked, frequently, when accentuated by conditions in after-life, produce changes in the mental and moral nature which evince themselves in startling and repulsive ways. The Committee hope to see 100,000 more children, and think that, if their investigations could be carried out on a large scale, the tabulated results would not only throw light upon many points connected with moral and social defects, but would also form a very valuable guide towards the improvement of education of the weaker classes of children. The work already done has involved considerable scientific examination and actuarial tabulation, and the Committee appeal for funds to prosecute their important work, which is undertaken in the interests of the public and national education. The office of the Committee is at the Parkes Museum, Margaret Street, W.

STATISTICS OF ENGLISH SECONDARY EDUCATION.

1. Some investigations on which I have recently been at work have required me to attempt to calculate the distribution of children in the various kinds of English secondary schools, and the figures I have put together may be interesting to readers of the *Educational Times* who are working at the problem of secondary school reform.

The object I have had in view has been to determine the efficiency of our schools as gauged by their *size*. I follow, mainly, Thring's view,* that the ideal school should possess a full class for each school year. He reckons a full class for a first-grade school at thirty pupils, and, taking the entrance age at nine and the leaving age at nineteen, he proposes three hundred as the proper number for such a school. By the same reasoning, a second-grade school might reckon a full class at thirty-five, with eight school years (nine to sixteen)—normal total two hundred and eighty; and a third-grade school, with a full class of forty and six school years, has a normal total of two hundred and forty. These figures indicate an *ideal maximum*, beyond which

the efficiency of a school of given grade will *not be increased* unless it provides some special departments of a preparatory or a technical nature.

Thring added that a school *ought not* to be increased beyond its ideal maximum, because the elements of education dependent upon personal oversight and influence are imperilled when the school becomes so enormous. Here I also agree with him, but I must leave this consideration out of my calculations; it only affects a very small number of schools in England.

I will not occupy space by urging the importance of these considerations. Every practical teacher knows that the efficiency of a school depends finally upon its capacity to provide an efficient teacher in every school year for which the school professes to receive pupils; and if a school accepts entries for the whole gamut of years from six to nineteen, it should provide at least fourteen good masters.

If we believe in class-teaching, as opposed to individual teaching, we must accept the doctrine of an ideal maximum, and must regard a school as, *to some extent*, inefficient if it falls seriously below this limit. A school may have many other virtues, in discipline and in training, but the *instruction* is bound to suffer in all schools where the number of teachers falls seriously below the number of school years for which the school accepts pupils.

2. In seeking for figures on which an estimate may be based, I have, practically, had only two sources on which to rely—(1) the paper prepared by the College of Preceptors and presented by Sir R. Temple to the House of Commons Committee on the Teachers' Organization and Registration Bill (Blue Book No. 325, July, 1891); (2) the invaluable *Educational Annual*, edited by Mr. W. Johnson (I have before me the issue of 1891; London: G. Philip & Son). I do not attempt to give *exact* figures—we have no statistics to hand which enable us to do so; I think, however, that, on the most important items, my figures must be very near the truth, and, after all, the exact figures are not so important as the *proportions* between the various classes of schools. Perhaps the subject may excite the interest of some readers, and lead them to undertake an independent investigation or to challenge the results which I here venture to offer.

[Since writing the above paragraph, I see that the Headmaster of Haileybury has been in communication with the Private Schools Association, and has asked them for the kind of information to which I am here seeking some clue.]

3. Beginning with Sir R. Temple's paper, we may take it that there are some 800,000 children receiving secondary education in England and Wales, excluding from this number the 100,000 who are allotted to schools, such as higher grade schools, which are nominally instructing primary, but are really instructing secondary children. Our task is to determine the distribution of these 800,000 children—400,000 boys, 400,000 girls.

Sir R. Temple's estimate only covers London and fifty-three other large towns, and his results require to be therefore modified, in so far as London and the large towns are far better provided with large schools than the small towns—indeed, some of them, according to Thring's rule, are much too large. Thus the result arrived at in the Blue Book table must be checked a little. Instead of allotting 100,000 boys to controlled* schools, and 300,000 to private schools, I should be disposed to make the proportion 1 : 4, and I think the figures that follow will confirm this modification; the figures relating to girls also require modification, in view of the large number who are educated at home.

With these modifications, then, we may reproduce Sir R. Temple's result as follows:—

TABLE I.

	Boys.	Girls.
In controlled schools	90,000	30,000
In private schools	305,000	350,000
Educated at home or on the Continent ...	5,000	20,000
Total.....	400,000	400,000

The problem before us is to determine the distribution of these into schools discriminated according to size; we shall, of course, neglect the 25,000 children educated at home or on the Continent.

* I use the term "controlled" as a convenient term to cover every kind of school which is not held in private ownership, whether public, endowed, or proprietary.

It is useless for our purpose to distinguish schools as the Charity Commissioners do, according to their grade, for this distinction is not, as a rule, adhered to by secondary schools; the immense majority offer to receive pupils of any age between eight and nineteen, and *nearly all* do, as a matter of fact, give instruction to pupils up to sixteen. The main exceptions are in the well-marked division of the public schools, and the private preparatory schools which depend upon them, and some endowed schools, of which the King Edward's Schools in Birmingham afford an example.

4. *Controlled schools for boys—90,000 in all.*—Besides the list of 800 schools given in Johnson, we have another annual, *Cassell's Education Annual*, 1885; it has not been published since 1885, but it helps to confirm the results given in Johnson. The latter gives the accommodation in many cases, but, unfortunately, this is not a trustworthy guide as to the attendance. I have relied upon my own personal knowledge in many cases in order to check my classification. It would be a great benefit to investigators if the publishers of the *Education Annual* (or perhaps the College of Preceptors?) would go to the expense and trouble of collecting a really trustworthy return on these matters. Our pedagogics is overwhelmed with opinions; it sadly needs a few facts to base them on. I offer the following table:—

TABLE II.

Distribution of 90,000 Boys in 650 Controlled Schools.

Description of School.	No. of Schools.	Average Attendance.	Total.	Divided probably into	
				Boarders.	Day Boys.
A. Public Schools and schools bearing the same general character	40	350	14,000	11,000	3,000
B. Large day grammar schools	100	300	30,000	4,000	26,000
C. Large so-called "middle class" proprietary schools	50	200	10,000	9,000	1,000
D. Small schools—endowed, proprietary, &c.	400	60	24,000	13,000	11,000
Totals	590	130	78,000	37,000	41,000
To this add—					
E. Naval, military, commercial, technical, which are really not within our view, except so far as they take boys of the school age	60	250	15,000	6,000	9,000
	650 in all		93,000 in all		

If we were to judge of this table only by the final totals, we should not have cause for dissatisfaction; for, although the average attendance is below the ideal maximum by more than one hundred, it is still fairly satisfactory. A secondary school of one hundred and thirty boys can afford to provide a moderately efficient staff, especially if it be endowed a little. The unsatisfactory part of the table is exhibited by the four hundred and fifty schools which educate 27,000 children, and ought to be educating four times as many, according to the ideal maximum theory.

The last two columns are merely conjecture. I do not know of any figures which can help us to a conclusion. The Johnson list sometimes states the proportion of day boys to boarders in a school, but not often. It must be borne in mind, in judging of Classes C and D, that there are many proprietary boarding-schools which refuse to receive day-boys; while, on the other hand, the headmasters of the smaller grammar schools almost always have a boarding-house. My own opinion is, that about one-half of the boys attending controlled schools are boarders—either entire boarders or so-called weekly boarders. I give an estimate for boarders, first, because the issues involved are of great importance in the study of school organization; secondly, because they *directly* affect the issue raised in these estimates, inasmuch as the boarding element in most schools is such a variable quantity, and in small grammar schools varies constantly, and from a variety of reasons wholly unconnected with the normal purpose of the school, and greatly to its injury.

5. *Controlled girls' schools—300 pupils.*—The following is my estimate:—

TABLE III.
Distribution of 30,000 Girls in 152 Controlled Schools.

Description.	No.	Average Attendance.	Total.	Divided probably into	
				Boarders.	Day-pupils.
A. Large schools of the Girls' High School type	80	250	20,000	5,000	15,000
B. Large proprietary schools for girls	12	250	3,000	2,500	500
C. Small schools, grammar, proprietary, &c. (some recently founded)	60	100	6,000	3,000	3,000
Totals	152	over 190	29,000	10,500	18,500

It is, I believe, a general opinion that the education of girls, so far as it has been reorganized during the past thirty years, presents the most satisfactory result in the whole realm of secondary education, and this table certainly bears out the statement. The average attendance approaches more nearly to the normal; the small (presumably less efficient) schools educate only one-fifth of the girls, whereas the small controlled schools educate more than one-fourth of the boys.

But the real lesson of the table lies in the very small total. Out of 400,000 girls of the secondary class, only some 30,000 are provided for in controlled schools! I grant fully the strength of the arguments brought forward by those who prefer to see girls educated at home, or in select private schools; at the same time, it is clear that there is, on the other side, an increasing desire to see girls, as well as boys, attending a controlled day school for a few years, and the advocates of this policy need to be reminded that the ground is not yet covered. If it were not for private enterprise, five girls out of six would be without a secondary education.

6. *Boys and girls in private schools—estimated at between 600,000 and 700,000.*—There are no figures which help us here in discriminating boys' schools from girls. I merely hazard a distribution in the annexed table. The important point is to make some estimate of the actual number of private schools in existence.

The Johnson list gives some 4,000, and I fear that his readers will be misled if they take this total as representing the actual condition of things. It has been put together by collecting the names of schools which appear in local or College of Preceptors examination lists, and it is clearly inadequate to cover the ground, for we have at least 600,000 children to account for, and it would be absurd to credit these 4,000 institutions with an average of one hundred and fifty pupils each.

I have had recourse to the Post Office Directory in order to test the Johnson list for certain districts with which I am acquainted, and which I take as representing the average condition of things elsewhere. The result has led me to suppose that for every school given in this list there are four or five which it omits, and on this basis I venture to make the following estimate:—

TABLE IV.
Distribution of some 300,000 Boys and 350,000 Girls in some 19,000 private schools.

Description.	Number.	Average Attendance.	Total.
A. Large schools	400	100	40,000
Boys	350		35,000
Girls	50		5,000
B. Smaller schools	3,500	50	175,000
Boys	2,000		100,000
Girls	1,500		75,000
C. Very small schools ...	15,000	30	450,000
Boys	6,000		180,000
Girls	9,000		270,000
Totals	18,900	36	665,000
			315,000 Boys
			345,000 Girls

My object in trying to get at these figures is not to produce materials for the advocacy of a drastic revolutionary policy; certainly I am not one of those who desire to "abolish" anyone or anything. The private school system, as here displayed, is powerful enough to defend its just claims, and to repel adversaries from every quarter.

The only comment I shall offer upon this table is to lay emphasis upon class C—some 15,000 schools—many of whom teach less than thirty pupils, distributed in four or five (frequently more) school years, and having charge of *more than half of the whole responsibility for secondary education*.

These schools, further, are distinguished from class A and B by not sending in candidates for any recognised public examination. I do not mention this as a reproach, for it is probable that some of the best of these schools object, on pedagogic grounds, to let an outside examination interfere with their education; but it is surely more likely that the majority refuse to send up candidates because the instruction is too bad to bear looking at. Depending, as they do, entirely upon competition, they would certainly seek scholastic distinction, as a means of advertisement, if they could secure it. Let me repeat that I only make this stricture upon the *worse* type of schools; no doubt many schools, especially small private schools for girls, pursue their quiet and useful way without being greatly affected by the unhappy stimulus of competition, which does so much harm to their neighbours.

I have put down as a total for such schools 15,000, and I believe the estimate is under the mark. At the same time, a critic may object to the way in which I have tried to support my figures—he may think that the Post Office Directory list is unreliable. Some will hold that a number of these obscure private schools are really *primary* schools, and if we judge by their curriculum, or by the leaving age, this may be fairly held. If, however, we judge by the fees, we cannot find many schools which have survived the operation of the Act of 1870. The few that there were (such as H.M. Inspectors occasionally discover) are probably being crushed out of existence by the Assisted Education Act—without compensation, I fear.

My brief task is done. I offer the figures for criticism, and for the use of reformers and of the opponents of reform. My purpose is served if I have succeeded in illustrating the necessity of collecting data, and of surveying the whole field, before we attempt to offer positive proposals for the reorganization of secondary education; still less should we adopt an attitude of resistance to *all* proposals, unless we have fortified our position by an acquaintance with every department.

Aided by such knowledge—patiently acquired and well tested—we may proceed to form a dispassionate judgment, apart from the prejudices in which professional pursuits or party views may tend to involve us.

J. J. FINDLAY.

UNIVERSITY INTELLIGENCE.

UNIVERSITY OF LONDON.

THE May Meeting of Convocation was held on the second Tuesday, as usual. Several heads of the agenda were of interest, and there was a fairly good house. Precedence was naturally given to a motion, which was proposed by the chairman and carried unanimously, with reference to the death of the late Chancellor; and the chairman was authorized to communicate the same to the Countess of Derby, together with an expression of the sincere sympathy of Convocation. Of the other resolutions adopted (chiefly upon the report of the Annual Committee), the most important comprised (1) a proposal to allow candidates for examination in any living language at the M.A. Examination to be tested, at their option, in their ability to speak such language, and to give them a mark of proficiency if they pass the test; (2) authority to the Annual Committee to guard the interests of Convocation in regard to all questions that may arise in connexion with the Gresham University Commission; (3) a proposal for instituting a degree to be called "Master of Education," to be accessible to all Bachelors (*i.e.*, Bachelors in all faculties). A scheme of examination for this degree was presented by the Annual Committee, and is laid before our readers in another column.

The following day, Wednesday, May 10th, was Presentation Day. There was but a scanty attendance of Senators, probably owing to the ceremony at the Imperial Institute, which took place the same morning; but the number of presentees and their friends was as large as ever. The Vice-Chancellor presided, and in his speech passed a well-deserved eulogium upon the late Chancellor. One point of interest mentioned was that, by his will, the Earl of Derby had left £2000 to the University for the foundation of a prize, exhibition, or scholarship, at the discretion of the Senate. The Vice-Chancellor's eulogium was received in respectful silence, as was also a similar expression of feeling on the part of Sir John

Lubbock. The presentations occupied about an hour; and some of the presentees were received with unusual enthusiasm, especially Mr. F. J. Steward, of Guy's Hospital, who came up for three gold medals and an exhibition; Miss Hayward, B.Sc., who had been recommended for two University scholarships; Miss Hatch, M.B., who, besides taking honours in medicine, was second, and obtained a gold medal, in obstetrics; Mr. S. G. Toller, M.B., who carried off two scholarships and two medals; and Mr. H. E. Nash, LL.B., on the ground, apparently, that he is a pure negro.

CAMBRIDGE.

Dr. Hobson, of Christ's College, who was Senior Wrangler in 1878, has been elected Fellow of the Royal Society.

The Smith's Prizes have been adjudged to C. E. Cullis, B.A., of Gonville and Caius College, for his essay on "The Union of Prepared Solids in Incompressible Liquid"; D. B. Mair, B.A., of Christ's College, for his essay on "The Continuous Deformation of Surfaces," and to R. H. D. Mayall, B.A., of Sidney Sussex College, for his essay on "Certain Forms of Current Sheets." (The names are in alphabetical order.)

The Winchester Reading Prizes are adjudged to A. A. Jack, Scholar of Peterhouse, and Vice-President of the Union, and to F. Stephenson, Scholar of Christ's College, who are pronounced equal in merit.

The managers of the Craven Fund have appointed E. F. Benson, B.A., of King's College, to the Craven Studentship for the year beginning 1st July, 1893. They have also made a grant of £80 to A. G. Bather, B.A., of King's College, for exploration of sites and other special study in connexion with the British School at Athens.

The Lightfoot Scholarship for 1893 has been awarded to W. E. Jordan, B.A., King's College.

The Bishop of Ely has appointed Mr. Anthony Ashley Bevan, of Trinity College, to the Lord Almoner's Readership in Arabic, vacant by the death of Professor Bensly. Mr. Bevan, who was born in 1859, matriculated in 1884, after studying Semitic languages for some years in Leipsig and Strasburg. In 1886 he was first Vidil Prizeman, and in 1887 obtained a first class in Semitic languages. In 1888 he obtained the Tyrwhitt Scholarship and also acted as Deputy Adams Professor of Arabic during the absence of Professor Robertson Smith. In 1890 he was elected a Fellow of Trinity.

The following have been elected to the vacant University Scholarships:—Bell Scholars—John Manisty Hardwick, Scholar of St. John's, and Alfred John Smallpiece, Scholar of St. John's, who are declared to be of equal merit; Abbot Scholar—Charles Bower Radcliffe Ellis, Scholar of Trinity College.

The Rev. A. F. Kirkpatrick, Professor of Hebrew, has been appointed Lady Margaret Preacher for the ensuing year. The Sermon will be preached on November 5th.

It is announced that the Homerton Training College for Elementary Teachers has bought what was once Cavendish.

Mr. Stanley M. Leathes, of Trinity College, has been appointed to the office of Assistant Registrar, which was vacant by the resignation of Mr. C. E. Grant.

The Day Training College is now attended by thirteen students, of whom three are in their second, and ten in their first year. The second year students are candidates for the ordinary degree, and have all passed the Previous Examination. Of the first year students, seven are proposing to enter for tripos examinations. Two of the students have become members of King's College, the rest are non-collegiate.

The following list of entries for the various triposes is interesting in many ways:—Mathematical, Part II., 14; Part I., 114; Classical, Part II., 10, Part I., 110; Moral Science, Part II., 1, Part I., 10; Natural Science, Part II., 17, Part I., 123; Law, Part II., 52, Part I., 69; History, 33; Theology, Part II., 14, Part I., 46; Indian Languages, 1; Semitic Languages, 2; Modern and Mediæval Languages, 9. It will be seen that Natural Science easily heads the list. Leaving out the entries for second parts, and allowing for men who have already taken their degrees, and are in for a second tripos, roughly about 500 out of the 952 who entered in the year 1890–1, are intending to try for honours—that is, rather more than half, or decidedly more than half if we take into consideration those who for various reasons leave the University without completing their course.

OXFORD.

The last of the Rev. C. B. Upton's course of six Hibbert Lectures, on "The Bases of Religious Belief," was delivered on May 10th.

The Romanes Lecture was delivered on May 18th, by the Right Hon. Thomas H. Huxley, at the Sheldonian Theatre, on "Evolution and Ethics."

The examiners have reported to the Vice-Chancellor that they have awarded the Green Moral Philosophy Prize to the essay sent in by Robert Ranulph Marett, M.A., Fellow of Exeter College.

The Stanhope Historical Essay Prize has been awarded to Arthur Ogle, Exhibitor of Magdalen College. Honourably mentioned—J. R. L. Rankin, Exhibitor of Corpus Christi College; H. L. Samuel, Balliol College; B. W. Henderson, Scholar of Lincoln College; P. J. Macdonell, Scholar of Brasenose College.

Hall, Hall-Houghton, and Houghton Prizes, 1893.—The Trustees, acting on the recommendation of the examiners, have awarded presents of books, of the value of £5 each, to W. C. Allen, B.A., Exeter College; H. J.

Riddelsdell, B.A., Jesus College; W. J. Holloway, B.A., Non-Collegiate, on account of the excellence of their work in the recent examination for the Senior Greek Testament Prize, the Junior Greek Testament Prize, and the Junior Septuagint Prize respectively.

The Judges have reported to the Vice-Chancellor the following awards:—*Chancellor's Prizes*—English Essay: W. H. Porter, B.A., late Scholar of Lincoln College. Latin Essay: not awarded. Latin Verse: R. J. Cholmeley, Scholar of Corpus Christi College. English Verse (Newdigate): J. B. Harris-Burland, Exeter College. *Gaisford Prizes*—(1) For Greek Theocritean Verse: H. Sidebotham, Scholar of Balliol College; *proxime accessit*: P. W. Sergeant, Scholar of Trinity College. (2) For Greek Prose in the style of Thucydides: W. O. Bailey, Scholar of Trinity College; *proxime accessit*: A. W. Smallwood, Scholar of Corpus Christi College. *Ellerton Theological Prize*—Paul V. M. Benecke, M.A., Fellow of Magdalen College.

At a meeting of the electors holden on Tuesday, May 2nd, the Rev. J. R. Illingworth, Keble, was elected Bampton Lecturer for the year 1894.

The statute proposing to constitute a new Ford Professorship of English History has been rejected in Convocation by 73 votes to 53.

The University has voted a grant of £100 for three years to the British School of Archaeology at Athens. Lord Kelvin delivered the second Robert Boyle lecture on May 16th before the Junior Scientific Club.

The Warden and Council of Keble have elected the Rev. Dr. Talbot, Vicar of Leeds and first Warden of Keble, to the vacancy on the Council caused by the death of the Rev. Richard West.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

The Aberdeen University Court will probably elect very shortly a Lecturer on Education.

The authorities of Aberdeen University have just received from the trustees of the late Mr. John Gray Chalmers, Aberdeen, the deed of foundation of the Chalmers Chair of English Literature, for the establishment of which the deceased bequeathed £12,000. The new chair is to be under the patronage of the Crown. The salary is to be about £350, with class fees added, which are reckoned as equivalent to about £300.

Mr. A. W. Flux, Fellow of St. John's, has been appointed Lecturer in Political Economy at Owens College, Manchester. Mr. Flux, who was one of the four bracketed Senior Wranglers of 1887, is one of the distinguished band of mathematicians who have followed Professor Marshall in devoting their attention to economics. He gained the Marshall Prize in 1889.

The Rev. Bertram Pollock, of Trinity College, has been elected Headmaster of Wellington College. Mr. Pollock graduated in 1885, taking a First Class, Second Division, in the Classical Tripos. Since then he has been an assistant-master at Marlborough, where he has been popular and successful. He comes of a judicial family, his grandfather, father, and uncle having all held distinguished positions on the English Bench. He is only twenty-nine, and is therefore the youngest of the headmasters of our great public schools.

Mr. Frederic Swann, B.A., B.Sc. (London), of the Royal Grammar School, Newcastle-on-Tyne, has been elected to the headmastership of the Grammar School, Ilkley, Yorkshire.

Mr. Ashloy Bickersteth, of Trinity, has been appointed Headmaster of the Windsor Choir School.

At a meeting of the Council of the Durham College of Science, Newcastle-upon-Tyne, it was resolved to offer to each county council in England the right of nominating a scholar, who shall attend the course of instruction in the agricultural department of the College without the payment of fees, on condition that the county council pay to the scholar not less than £30 towards the cost of his board and lodging in Newcastle, or the neighbourhood, and of such books or appliances as he may require for his study. The scholarships will be tenable, in the first instance, for one year, but may be renewed for a second year by the College Council if the progress of the student is satisfactory.

Prof. J. Mark Baldwin, of Toronto, has been appointed to the new chair of Experimental Psychology at the University of Princeton.

Mr. Robert Adamson, who succeeded Jevons as Professor of Logic and Philosophy at Owens College, in 1876, has been appointed by the Crown to the new chair of Logic at Aberdeen, which forms part of the dual office occupied by the late Prof. Minto.

M. Mareel Dubois has been appointed to a newly created chair of French Colonial Geography, at the Sorbonne.

Mr. T. C. E. Daniels has been appointed Headmaster of Conway College, North Wales. Mr. Daniels was formerly second master of Talbot House School, Old Trafford, Manchester, then senior master at Caterham School, and lately assistant master at Heversham Grammar School.

In addition to the several academic institutions for girls which, as we have reported from time to time, have been established in Germany during the last few years, the Wissenschaftliche Central-Verein of Berlin, has just founded *Gymnasialcourse* for girls who have already finished their education in schools. Fräulein Helene Lange, the well-known champion of "woman's rights," will be the lady principal of the new institution.

CORRESPONDENCE.

PROFESSOR SULLY will be greatly obliged if parents or teachers of young children can supply him with facts bearing on the characteristics of the childish mind. What he especially desires is first-hand observations carried out on children during the first five or six years of life. Any action or saying which was considered worth recording will presumably have some significance as illustrating either common characteristics or the range of individual diversity among children. With the observations there should be given the sex of the child and the exact age at the time of the occurrence described, also, if possible, a reference to any facts of temperament, surroundings, and previous experience, which serve either to throw light on the observations, or on the other hand to make it appear extraordinary or exceptional. The points on which observations are more particularly desired are the following:—

1. Under *Attention and Observation*.—Illustrations of the special directions of early Attention and Interest (in looking, touching, &c.), and of the gradual widening of the field of observation. Instances of specially exact, as well as of hasty and inexact, observation.

2. Under *Memory*.—Earliest manifestations of memory in recognising persons, &c. Facts going to show what things the child remembers best. Memory for out-of-the-way facts, insignificant details, &c. Examples of strength of verbal memory in the child, as in noting the introduction of new words in the repetition of a familiar story or a poem.

3. Under *Imagination and Fancy*.—Instances of anthropomorphic fancy, child-myth, and personification of nature. How the child spontaneously fills up the unknown in space and time. Instances of apparent falsehood resulting from a vivid imagination. Imagination as interfering with observation and producing "illusions of sense."

4. Under *Reasoning*.—First appearance of curiosity about the origin of things, of the child himself, of the Deity, and so forth. Childish puzzles or the things which appear strange and set him thinking (*e.g.*, nature of dreams, the fact of his own previous non-existence, birth, &c.). Characteristic modes of childish explanation. How the child translates our explanation of things, and generally puts his own childish meaning into our words (*e.g.*, in misapprehension of descriptions, in misapplication of rules of conduct).

5. Under *Language*.—First use of articulate sounds, characteristic omissions, alterations, and transpositions of sounds in repeating words (*e.g.*, in use of "klam" for perambulator). Order of acquisition of different sounds. Invention of new word-sounds (*e.g.*, "mum" for eatable). Original applications of common words (*e.g.*, in calling the panting of a dog "puff, puff").

6. Under *Pleasure and Pain*.—First characteristic manifestations of pleasure and displeasure (smiling, frowning, &c. Instinctive and acquired likes and dislikes for persons, animals, toys, &c.). Favourite modes of amusement.

7. Under *Fear*.—First manifestations of fear, more especially of the dark, of animals, of big moving things, as the sea, &c. Any facts bearing on the question whether such fears are instinctive, or are due to individual experience and to the suggestions of others.

8. Under *Self-feeling*.—Illustrations of childish feeling for self. Instances of self-pity, self-caressing, &c. Directions of childish vanity (dress, display of strength, &c.). Jealousy, how excited. Manifestations of a feeling of property in toys, &c.

9. Under *Sympathy, Affection*.—Examples of early feeling towards animals and human beings as bearing on question of innate sympathy. Facts illustrating the so-called cruelty of children (as pulling flies to pieces). Special provocatives of pity (*e.g.*, sight of dead animal).

10. Under *Artistic Taste*.—First crude manifestations of taste. Special preferences in the matter of colours, forms, rhythms of melody and verse, &c. Facts illustrating children's ideas of "prettiness," "grandeur," &c. First manifestations of laughter, how provoked. First clear indications of a sense of the comical or ludicrous in children.

11. Under *Moral and Religious Feeling*.—Earliest known examples of respect for authority (*e.g.* ceasing to cry when spoken to in firm, authoritative tone). First exercise of judicial function by the child in scolding (or commending) others or himself. Facts throwing light on child's first conceptions of right and wrong. Illustrations of crude feeling of justice in little children. What especially excites a feeling of being injured or wronged. Illustrations of moral sensibility and of callousness.

12. Under *Volition*.—Imitation of others in words, gestures, &c. Illustrations of the effect of others' verbal suggestions on childish action. Examples of self-will, of defiance of commands. First manifestations of hesitation in acting and of self-restraint.

13. Under *Artistic Production*.—Spontaneous dramatic invention ("make-believe") in play. Original manual construction (building with bricks, &c.). Invention of stories. First drawings of animals, men, &c. (with facsimiles if possible). Noticeable grades of progress in these spontaneous drawings.

East Heath Road, Hampstead, London, N.W.

May, 1893.

LONDON UNIVERSITY EXAMS.

NEW BOOKS.

XENOPHON.—HELLENICA, BOOK III. Edited by A. H. ALLCROFT, M.A. Oxon., and F. L. D. RICHARDSON, B.A. Lond.
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CHAUCE.—HOUSE OF FAME. Edited by the Rev. Prof. W. W. SKEAT, Litt.D. (Special Edition, reprinted by the Oxford University Press, for the Univ. Corr. Coll. Press, from Prof. Skeat's *Minor Poems of Chaucer*, 10s. 6d.) 3s. 6d. net.

CICERO.—AD ATTICUM, BOOK IV. Edited, with INTRODUCTION and NOTES, by J. H. HAYDON, M.A. Lond. and Camb. 3s. 6d. [This month.]

DEMOSTHENES.—ADVERSUS LEPTINEM. A TRANSLATION, with TEST PAPERS. By F. E. A. TRAYES, B.A. Camb. 2s. 6d.

THE INTERMEDIATE TEXT-BOOK OF ENGLISH LITERATURE. By W. H. Low, M.A. Lond. Vol. II., 1558 to 1660. 3s. 6d.

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THE EDUCATIONAL TIMES.

LONDON, JUNE 1, 1893.

LORD REAY has accepted the presidentship of a new association formed to secure the grading of schools, and he is supported by an influential and many-sided committee. Such an announcement causes us to remember other recommendations to this end, which were either ahead of popular sentiment, or unsupported by popular opinion, and therefore failed to accomplish any practical results. The heads which have conceived these various schemes have not been joined to the hands which could execute.

Twenty-five years ago the "Schools Enquiry Commission" issued its Report and its scheme for the grading of schools, and thereby raised high hopes that an adjustment of the higher educational machinery of the land would soon lead to a reconstitution of society. For twenty-five years the Report has lain dormant, and no adequate result has come from the effort to grade and organize schools. It is true that an Act was passed giving to an executive Commission powers based on the Report, but it has proved itself altogether insufficient in some important particulars. The Act made no provision, as the original Commission recommended, for the establishment of provincial authorities having power to deal with schools in groups. Consequently each school that has come before the executive Commission has been dealt with as an isolated case, and when schools have been classed by the Charity Commissioners as of a particular grade, the classification has been intended only to express limitation of the subjects of instruction.

Any wise plan for the grading of secondary schools in England must take account of the customs and traditions of society in England, and must not be simply an importation from abroad. We cannot, for instance, arrange all schools after two types, those of the Gymnasium and Real-Schule. In England it is very clear, to all who are conversant with the customs and conditions of English life, that the grades must depend chiefly upon the age at which the education is expected to terminate. The education of a boy who expects to enter business at fifteen will, of necessity, be different from that which is preparatory for the Universities. Boys of a certain age in one of these two schools would know much less of some things and more of others than boys of the same age in the other school. In the school preparing for the Universities, certain studies will be begun early, and certain others almost ignored; while in the school giving an education to end at the age of fifteen, the latter class of studies will be the chief business, and the former quite supplementary. English grammar and composition, for instance, would be of minor importance in one, but most essential in

the other. Correctness of speech must be regularly taught in the latter, while there will be no justification for troubling the pupils with the grammar of a language they can never read; whereas, on the other hand, the inflexions and rules of a classical language will be essential in the former class of school, and the study of correct writing and speaking of English will need less attention, in the presence of a correct home influence in this respect. This sound and practical view was taken by the Commission of Enquiry when it suggested its plan for the grading of schools. It may not be out of place, as it is certainly not yet out of date, to quote the Commissioners' own words on this point:—

"We need schools of the first grade, which propose to continue school work to the age of eighteen or nineteen; schools of the second grade, which suppose it to stop about sixteen; and schools of the third grade, which suppose it to stop about fourteen. In a school of the first grade Greek may be taught as well as Latin; in a school of the second it is useless to teach Greek as part of the regular course at all. Again, in a school of the second grade it will often be possible to teach two modern languages besides Latin, and to make Latin an important subject; in a school of the third grade it would hardly be wise to attempt more than one modern language in addition to the elements of Latin, nor to carry Latin beyond the elements. But that is not the only difference. The boy in the third-grade school may work at French and the elements of Latin till he is fourteen; but the boy of the second grade, if he is to learn German also, will probably not wait till he is fourteen to begin it; nor, again, will the boy in the first-grade school wait till he is sixteen to begin Greek. A boy of fourteen will be doing very different work accordingly as he is in a school of one or other of the three grades. For this reason it is not desirable to attempt to combine the work of all three in one school, nor to test the work of schools of the lower grade, as a fragment of the work of schools of higher grades. Three different kinds of work require three different kinds of school. Each kind of school should have its own proper aim set before it, and should be put under such rules as will compel it to keep to that aim."

Then the Commissioners went into figures. Taking the Registrar-General's eleven divisions of England, they proposed that in each of these "a certain number of schools should be assigned to the first grade, a certain number to the second, and the remainder to the third." "On the whole," the Report proceeds, "it is probable that not less than four boarding schools of the first grade will be required for every million of the population. If for every one thousand people there should be one boy that ought to receive an education of this sort, each of these schools would have about two hundred and fifty scholars. The schools might possibly begin with a smaller number than two hundred and fifty, and might afterwards rise to a larger. But if hereafter the demand appeared to be greater than this number of schools could meet, facilities might be given for the establishment of more such schools." "To these boarding schools would have to be added day schools, or day and boarding schools combined in one, of the same grade, for towns with population above twenty thousand. A larger percentage than one per thousand of the population might be expected to attend schools of this grade from large towns, inasmuch as the charge for day-school education is so much less than that for

education in a boarding school." For the second grade of education it was proposed to make the same provision in boarding schools as for the first grade, but in schools of less size. "Besides the boarding schools, every town of a larger population than five thousand would want a day school, or a day and boarding school combined, of this grade; and whenever an endowed school was planted near such a town, this should be one of the uses to which it might conveniently be put. Lastly, every town should have, if possible, day schools of the third grade, and to this purpose most of the remaining schools should be appropriated." "A school of the third grade should not be allowed to charge a fee above £5. 5s., which would put it out of the reach of the classes for which it was intended, nor below £2. 2s., less than which would not pay for the kind of education required. In the same way the fees of second-grade day schools might vary from £6. 6s. to £12. 12s., and of second-grade boarding schools from £25 to £40. Lastly, the fees of first-grade day schools might vary from £12 to £26. 5s., and of first-grade boarding schools from £60 to £120."

This effort of the Commissioners is the only real attempt which has ever been made towards the grading of secondary schools, and, although we have no prospectus of the School Gradation Committee, nor have we any forecast of its policy and aims, yet we venture to think it could not do better than to take the report of that Commission as the basis of its first operations. The progress of the last twenty years, involving to some extent provision for technical, commercial, and professional education, will have necessitated the drawing of two sets of lines for the separation of schools into grades: one parallel to the strata; the other, like lines of cleavage, perpendicular to them. It is not by any means certain that in England two parallel divisions of the latter kind would be sufficient, as in Germany. There is work for the Committee to determine that question.

It seems to us that the present is a suitable time for returning to the question of grading, for on all sides we have been fixing our attention upon the provincial authorities for the direction of secondary education which the Commissioners recommended. It was suggested by them that, for each of the Registrar-General's divisions, there should be a Board composed of "six or eight unpaid district commissioners, appointed by the Crown from the residents in the division," and of one paid official commissioner, who "should be at once the inspector of all charities for secondary education in his district, and also, *ex officio*, one of the trustees of every trust for education above the elementary." Such provincial authorities would be "charged with the duty of determining in what grade each school is to stand"; and to do this, it would be "necessary to determine the age at which the boys should be required to leave school . . . to control the fees to be paid, and the subjects to be taught." Public opinion has advanced on this, and will insist on experts in education, and representatives of the teachers of the district, being placed on the provincial board. It will have to be recognised, however, that there are advantages and disadvantages in ticketing schools. In the first place, the status of a school at present is not a fixed thing; the merit of the master, the character of the situation, the amount of endowment, and several varying elements, fix the place of each school in the educational scale; and this place quickly changes when a marked change takes place in the first or second of these elements. The

great purpose of grading schools is undoubtedly to make one an effective stepping-stone to another. The great barrier to a rational grading is the inevitable tendency on all sides to substitute a social distinction for one of studies. For instance: a course of study is devised for a school because it is best adapted for boys who are being educated for a certain career in life for which the school is intended to provide. This gets to be looked upon as a respectable curriculum, and the school gets filled with boys who are in no way destined for the career in view; while others, who are quite within its scope, are virtually excluded on social grounds. Again, another school has a course destined to prepare for a career which must be entered upon earlier than the other, and which needs a very different preparation. This might find itself ticketed "second" or "third grade," a name which to many will have no educational significance at all, but only a social one, and many boys for whom it is adapted will not be allowed to use it. These are the difficulties, the Scylla and Charybdis between which the new Committee will have to steer its way.

THE London County Council have settled the main lines of their future policy with regard to technical education. Two years ago a "Special Committee on the Beer and Spirit Duties" reported to the Council, after taking voluminous evidence from a number of authorities on educational matters. Their recommendations were that it was expedient to assist technical education, and that the sum (about £20,000) then at the disposal of the Council should be spent mainly in assisting the half-dozen polytechnics. This report was rejected by the Council, mainly, we believe, from a desire to force the City Companies to devote a larger share of their funds to educational purposes. About twelve months ago a committee was again appointed to report upon the subject, and ample funds were placed at their disposal for the purpose of engaging professional assistance in their inquiries. The secretary of the committee (Mr. Llewellyn Smith), after a lapse of eight months, presented a report embodying a mass of statistics relating to education in London, together with detailed recommendations for the expenditure of monies. The committee also reported, shortly, to the Council, and it is this short report of the committee which the Council discussed at two meetings, Mr. Ll. Smith's report itself being at present simply referred "for the information of the Technical Education Board."

It is the new Board, therefore, which will consider, in detail, Mr. Smith's proposals, and the Board is free to adopt or reject these proposals as they please. The predisposing influence of a detailed and well-thought-out scheme is, however, so great that we can hardly doubt that, in the report now before us, we see many of the features of the plan of work which will ultimately be adopted by the Council. If the report be carefully examined, it will be found that it is proposed to spend the largest portion of the sum of £85,000 upon secondary education in day schools. This does not surprise us, considering that the author of the scheme is a well-known advocate of State-aid to secondary education, and has been concerned in the drafting of the Secondary Education Bill. It is proposed in the report to spend £29,400 during the first year in secondary education in day schools, this sum to be given in scholarships to pupils from elementary schools, and in grants to the schools which receive

them in proportion to the number of elementary scholars received. The items are as follows:—

1. Grants to schools (higher-grade primary, and secondary)—			
(a) Capital	£8,500		
(b) Annual	13,500	£22,000	
2. Scholarships—			
(a) Minor (to higher-grade primary schools) £5,000			
(b) Major (to secondary schools)	2,400	7,400	
			£29,400

Now, as these scholarships are to be tenable for three years, the annual cost of the scholarship part of the scheme will, in three years' time, be about £20,000, so that in three years there would be altogether about £42,000 being spent by the County Council in higher-grade and secondary schools on account of pupils received from elementary schools.

Incidentally, as is mentioned in the report, the other pupils of the secondary schools will benefit, in the improved provision of teaching appliances which will be obtained from the capital and maintenance grants of the Council. In addition to this £42,000, there should be reckoned a portion of the large grant to polytechnics (£16,000 for the first year, and expected soon to reach £20,000 annually), of which a part will go to the support of the secondary day schools connected with these institutions. The total, in three years' time, we may estimate to be about £45,000, which is very nearly three-fourths as much as the endowments of all the public secondary schools (boys' and girls') in London.

The scholarship part of the scheme is the only matter of the Secretary's report with the details of which the Council have actually concerned themselves. Their action in modifying the recommendations, before they had been considered by the Board to whom the report was referred, was perhaps somewhat irregular, but it shows two things of importance to the educational public—firstly, that the Council itself takes an active interest in the details of the proposed work, and, secondly, that the detailed proposals in the Secretary's report are already being taken as the basis for immediate action. In connexion with higher-grade schools, the Secretary proposed that a thousand scholarships should be established, of the clear value of £5 per annum, *in addition to free tuition*. At the meeting of the 14th February it was resolved that "no scholarship of less value than £10 per annum be awarded." This amendment is in accordance with the advice given by Sir Henry Roscoe in his evidence before the first Committee appointed by the Council two years ago. This advice was that no scholarship should be of less value than £15 per annum (*i.e.*, about £4 for fees, and £11 as a contribution to the parents towards the child's maintenance). Something of this kind must no doubt be done if the clever children of very poor parents are to be kept at school for two or three years after passing the compulsory standards. The maintenance of large numbers of elementary scholars at the public secondary schools is a matter which raises more complicated issues. The only important public school in London, giving a general secondary education, which is not included in the scope of the report, is Westminster, which, as coming under the Public Schools Act, is considered to be outside the sphere of the London County Council. The other "high schools" (as they are called in the report) are considered suitable institutions for continuing the education of pupils from the elementary schools; even

St. Paul's School (where the expenditure per pupil is £32 per annum) is not excluded from the category.

While wishing to see the best educational facilities afforded to boys of all classes, we cannot help thinking that this part of the scheme requires a little more consideration. The education given at a school such as St. Paul's is, first and foremost, an education for the *professions*. Now, the scope of technical education (outside which the funds of the Council cannot be expended) is taken in the report to *include*—(1) the general preparation for industrial employment; (2) special instruction given to those already employed in industry; (3) and, on the other hand, specially to *exclude* all purely professional training. Now, excluding the professional and considering only the technical aspect, the instruction given at a school such as St. Paul's is no better than at many a school where the annual expenditure is not £32 per head, but one-third of that sum. Unless, therefore, it is intended to assist the "primary technical scholars" to enter a professional career, which appears not to be contemplated in the report, we doubt whether it would be good policy, from either a financial or from an educational point of view, to send them to such schools as, for instance, St. Paul's.

In conclusion, we should like to see two points made far clearer and kept far clearer: secondary education and technical education are *not* synonymous terms; and assisting pupils to pay the fees of secondary schools is *not* assisting secondary education.

THE death of Lord Derby has left a void in English public life which is not likely to be filled in our generation, if it is ever likely to be filled at all. The tendencies of the time make, indeed, for the elimination, whilst increasing the need, of that kind of influence upon the practical concerns of political and social life which the deceased statesman so long exercised. As Mr. Balfour, at the Literary Fund Dinner, wittily expressed it, the British public, like gouty subjects, have a morbid craving for the dishes that intensify their malady. "They want reasoning; they love rhetoric." It was Lord Derby's mission to satisfy the wholesome want, never to gratify the morbid craving, and, in common with Mr. Balfour, we deeply regret "the loss of a great man, who had the unique art of making reasoning as attractive to the masses as rhetoric could possibly be." This art he mastered without resort to any of the seductions of oratory or literary style. His public speaking had, no doubt, sterling qualities of its own, and his style had the supreme merits of simplicity and good sense, but they never carried his audiences captive at the expense of their reason. "He depended," as Mr. Balfour justly said, "for the effects he produced, neither upon personal attack, upon turning opponents into ridicule, upon exaggerating his own case, or upon belittling the cause of his opponents. He had the incomparable art, the almost unique art, of uttering and making good the argument without any adventitious aids, and, at the same time, making it interesting to everyone who heard him, and convincing to everyone who was prepared to listen to it with an open mind." Who can doubt that the death of such a man, when fundamental questions in politics, economics, and education are again re-opened, constitutes a serious loss? We know not where to look, in the time to come, for that calm, cold analysis of the central, vital issues of burning questions

which we have so long been accustomed to get from Lord Derby. He, so to speak, was ever ready to throw the searchlight of reason and common-sense upon the mists and fogs by which rhetoric and sophistry are apt to obscure the real issues of a situation. It is an interesting fact in mental development that the qualities by which his speeches are characterized are as strongly marked in his first appearances as in his last. His first speech in the House of Commons, in 1850, was a complete success—has, in fact, been pronounced the best made in the particular debate in which it was delivered, although Mr. Gladstone and Lord Palmerston were amongst those who took part in it. He had, indeed, been as carefully trained for a public career as the younger Pitt, although in a very different manner, and it is not uninteresting to note that both succeeded in their first efforts, and each created the impression that future distinction was in store for him.

Having thus early gained the ear of the House of Commons and of the public, Lord Stanley never obtruded himself unduly upon either. Whenever he spoke, it was always to give to his audience the best that patient study and sobriety of judgment could make out of the matters in hand. His modesty and disposition towards unostentatious work, as often happens, brought him more fame than commonly falls to the lot of those who assiduously court it. Men of such diverse opinions as Macaulay and Mill, Palmerston and Bright, although all opposed to the party with which he was then associated, ungrudgingly recognised his merits. Mill went out of his way, in his work on "Liberty," to praise him as "one of the very few English public men who hold that a politician's opinions ought to be founded upon principle." Lord Palmerston, in 1855, offered him a seat in his Cabinet as the Secretary of State for the Colonies, when only twenty-nine years of age. But the strangest homage of all paid to his character and talents was the offer of a throne—the throne of Greece. This dazzling prize he declined, as he had some years previously declined Palmerston's more tempting offer. Such ambition as he possessed was urging him in a quite different direction, as we gather from his letter to Lord Shaftesbury:—"We are both public men," he wrote, "deeply interested in the condition of the working classes, and for my own part I should rather look back on services such as you have performed for that class than receive the highest honours in the employment of the State."

It would be a strange omission if we were here to forget to refer to Lord Derby's services to education. Early in his career he advocated the abolition of University tests. From 1856 he served on the Senate of London University. He, as Lord Stanley, when Secretary of State for India, re-organized the system of public competition for appointments in the Indian Civil Service, a system which has had a great influence upon the higher education of the country. He always upheld the necessity of examination for testing the work of teaching, and on many occasions he not merely gave utterance to sound advice for the direction of educational movements, but he liberally contributed to their cost. University College, Liverpool, owes to him the endowment of a chair, whilst he was a generous donor to its general funds.

His first act as Chancellor of London University was to devote a sum of £2000 to found a prize to perpetuate the memory of his predecessor, Lord Granville. He has, by his will, left a further sum of £2000 to the University, and £1000 to University College. The mention of these bequests

reminds us anew of the great loss the University has sustained by the death of her Chancellor. These institutions, in which he took so deep an interest, stand at present for antagonistic educational forces. To reconcile their conflicting aims, and combine what is valuable in the collegiate system with what is valuable in the existing examining system without impairing the prestige of the University, would have been, we have no doubt, a labour which he would have helped to bring, had his life been spared, to a triumphant close.

We have only space to refer to one of his educational addresses, that which he delivered as Lord Rector of Glasgow, in 1869—one that in our judgment well deserves to be read by one generation of students after another. It will bear comparison with the better-known addresses of Mill, Carlyle, Froude, and Huxley. Sensible and practical throughout, it abounds with pregnant passages, of which we can only quote one or two. As emphasising the need of soundness, what can be better than?—"The best thing is to know your subject thoroughly; the next best, to know nothing about it, and to be aware that you do know nothing; the worst is to know a little and to know that vaguely and confusedly."

In the following, the speaker's inner mind is revealed, in its attitude to the shifting questions of the day. "Good intentions won't help or serve you if you take poison instead of medicine, and in social matters we well know that ignorant philanthropy has often caused, perhaps even now causes, as much mischief as could be done by deliberate ill-will. We want zeal; we want earnestness for truth and justice. But the zeal of ignorance is a very poor affair, and the earnestness must be very shallow and unreal which will not bear the strictest scrutiny of the objects to which it is directed." Then, in counselling his hearers to make the most of their opportunities for mental discipline, what can be sounder than the advice?—"Waste no regret on the past, if it has done less for you than it ought. There is leisure to redeem all that. Dream no dreams of the future—the future will take care of itself." He acted himself from first to last quite up to the advice he gave the Glasgow students. In spite of the hindrances which vast wealth and a great hereditary position threw in his way, he worked hard all his life, as hard indeed as if his living depended on his exertions. "A middle station," he said, in the address we have been quoting, "equally removed from poverty and luxury, is that temperate zone of life in which mental development appears most to flourish." He was not born in that fortunate position, but, to use his own words, he was not content "to pass out of the world in the world's debt, to have consumed much and produced nothing, to have sat down as it were at the feast, and gone away without paying the reckoning."

It is wonderful how blind people can be to facts which they do not like, and how readily they can persuade themselves that other facts and tendencies exist for which they can give no trustworthy evidence. We have just been reading in a school paper an attack on examinations of all kinds, in which we are told that, in the schools of the immediate future, there will be no examinations—that there is an irresistible public demand that examinations shall cease, and so on; and this in spite of the fact, evident to

most observers, that the number of examinations steadily grows greater, and that there is a fairly general increase of candidates in most of them. Again, are not many of our political educational reformers untiring in their assertion that the crying need of the day is secondary education for the children of the artisan, oblivious of the fact that, though education is free in most places, we still have to use compulsion in order to ensure that the artisan's children shall go to school at all? And so strongly persuaded are these reformers of the rightness of their view, that we have had two Bills before Parliament, both proposing, under the name of the organization of secondary education, to give the children of artisans a more advanced education, and almost wholly ignoring the needs of the middle classes.

But the last demand of our reformers—full of a Gallic zeal for symmetry, and a Gallic impatience of mere matter of fact—is, perhaps, the most curious. We must grade our schools, they tell us, from lowest to highest, so that our pupils may pass freely and readily from the infant school to the University. There is to be no break in the perfect organic continuity. We are to rearrange everything as if all the children passed through all the grades and all entered the highest. And yet those who urge this must be perfectly well aware that not more than one pupil in a thousand will have either the means, or the ability, or the time, to make use of what we are told to provide for as the normal career. [But why have grades of schools at all, if all pupils in all schools are to go through the same course? There must always be great danger of discontinuity in passing from one school to another.] What makes the proposed reform the more curious to us is the fact that—unless we are very much mistaken—these are the very same reformers who find grievous fault with our public schools, because they are wont to treat all their pupils as if all were going to the University, whereas, as a matter of fact, only four or five per cent. do so. These schools, we are told, sacrifice the many to the good of the few. The many suffer because the plan of procedure is not properly adapted to their needs. It is unwise and unfair to treat them as if they were going to give many more years to education than we know they can possibly give. The proposed reform, as far as we can see, asks us to make precisely the same mistake, only on a far larger scale. We are to sacrifice the many for the good of the few. Nor will the few gain the greatest possible good by the plan; for nothing can be more detrimental to a pupil than a constant change of school. But then it is so pleasant to the feelings, so symmetrical, so organic!

REVIEWS, NOTICES, &c.

Psychology. Vol. I. *The Cognitive Powers.* (8vo, pp. 253, price 6s. 6d.) Vol. II. *The Motive Powers.* (8vo, pp. 267; price 6s. 6d. Macmillan & Co.) By James McCosh, D.D., LL.D., Litt.D.

Dr. McCosh used to be President of Princeton College, in the United States, and has been a voluminous writer on psychology, philosophy, and theology. The volumes before us are revised editions of books which have had a large circulation in the States, and which are now being introduced to the British public, though no doubt already known to specialist students amongst us. They are written in a bright, popular, pleasant style; and, whether we agree with Dr. McCosh or not, we certainly cannot complain that he perplexes us or leaves us in any doubt as to his meaning. The views, however, which Dr. McCosh sets forth, are not in the main those accepted in England, or possibly in Europe; and, indeed, to be quite frank, one is made somewhat frequently to feel

that the author is a Doctor of Divinity and a Doctor of Letters, when one would fain have him write as a man of science. Dr. McCosh has very little to tell us about the physical basis of mind, and what has so far been learnt of the connexion between the physical and the psychical; he pushes matters to extremes in his division of the mind's powers into separate faculties; he makes one of these separate faculties the conscience; and what he has to tell us of the will is very brief, and by no means adequate, from our point of view. Instead of analyses of phenomena we are too often given mere descriptions of their more obvious characteristics, picturesque accounts of what calls them into activity, and references to some of their common intellectual uses. These passages are generally well-written, points are made with decided skill, and illustrations are well chosen. But somehow one feels that one has not really learnt very much about the nature of the phenomena themselves, and that one does not carry away very much to help one in actual practice. The chapter on the "Training of the Imagination," for instance, does not give the teacher any definite practical help at all; while that on the "Abuse of the Imagination" consists mainly of a censure of ordinary novel reading—true and good in itself, but not particularly psychological.

What is most difficult, however, to accept in these volumes—in which otherwise we find much to admire—is the hard and fast division of mental power into faculties. We can understand that, for purposes of clearer treatment, a writer, when he finds certain characteristics specially predominant in certain modes of mental activity, should name those modes after the special predominant characteristics, and write of *memory*, *imagination*, *conception*, and the rest—never losing sight of the fact that the same activity has other characteristics as well, and that in any case it is the mind as a whole that is acting; that in fact he is marking one characteristic of an activity or a state rather than a part of the mind itself. Many writers have done this without producing any confusion. Of all this Dr. McCosh is, of course, perfectly aware. Indeed, in his introduction, he insists that "the faculties are powers of one indivisible mind." But in his detailed treatment of the faculties—perhaps unconsciously—he goes much further, and seems to us at times to quite lose sight of this very indivisibility on which he has insisted, while his faculties are treated as if they were far less complex states or modes of activity than they really are. But enough of fault-finding. We have thought it necessary to point out our main differences of opinion, because we feel sure that these books will secure for themselves a large circulation in England, and will be read with much pleasure and profit by many young students. It is in their behalf that we have written—the elder students can take care of themselves.

The Dictionary of National Biography. Edited by Sidney Lee. Volumes XXXIII. and XXXIV., Llwyd — Maccartney. (Smith, Elder, & Co.)—There are two things that the editors and publishers of this truly national work have taught us to take for granted—its merits, and the certainty that it will be continued to the end of the alphabet, however many volumes may be required to complete it. The manner in which the aggregate length of the Dictionary tends to increase as it proceeds is well illustrated by the last of the volumes before us (Llwyd to Maccartney). Within these narrow limits there are no fewer than thirty-one names of Englishmen and Englishwomen who have died since the work began, in 1885. They account for some fifty pages; and of course the proportionate increase will be much greater a few years hence. Not only does this suggest that the size of the whole work will be considerably in excess of what was estimated eight years ago, but it forebodes that the later letters will seem to be far more fully treated in the year 1900 than the earlier letters. For the sake of symmetry it might have been better to exclude the names of all persons dying after the *Dictionary* was begun, and including them in a few supplementary volumes, or even leaving them out altogether. On a balance of advantages, however, most readers will probably prefer the system adopted by Messrs. Stephen and Lee, especially as each volume will always retain the date of its publication. The educational names, in the sections under notice, include Lemprière, Lily, Linacre, and Locke, with various Lindsays and Lloyds, Mr. Lupton's account of the first High Master of St. Paul's School being particularly interesting. The present Surmaster of Dean Colet's foundation reminds us of the extraordinary favour enjoyed by William Lily's Latin grammar—or, as its first title described it, "Grammaticæ Rudimenta"—which has held its ground, with successive

developments, from the beginning of the sixteenth century up to our own day, although the Paulines of Henry the Eighth's time would scarcely recognise a trace of their handiwork in the "Eton Latin Grammar." Colet's "Æditio," published in 1509, was indeed the basis of the whole superstructure on which Lily and Erasmus built. Their work was remodelled in 1540, and ordered to be used in all schools, both by Henry and by his son Edward VI. In 1571 the Upper House of Congregation issued a Canon to the like effect; and a few years later "a Bill for the same purpose was read for the first time in the House of Lords, but not proceeded with." Shakespeare thumbed this grammar, and more than one of his characters quote its Latin tags. It was not until 1758, in the two hundred and fiftieth year of its existence, that the school of Wolsey definitely adopted the Latin rudiments which had been drawn up by the first master of the school of Colet. Mr. Stephen's *Life of John Locke* is concise, but marked by the firm grasp and sense of proportion with which he has made us familiar in his former contributions. We could have wished to find a little more detail in connexion with Locke's advocacy of the plan for preventing Irish competition with the English woollen trade—a subject possessing special interest at the present time. The philosopher was drawn into this policy by his acceptance of a position on the Council of Trade, established in 1696. No doubt he acted in perfectly good faith, according to the commercial ideas prevalent at the time; and, if he had any question as to the soundness or justice of the course adopted by Somers and his colleagues, he may have felt that he was doing something to compensate Ireland by recommending the encouragement of the linen industry. As for the general value of this *Dictionary* to students and other readers, we can only repeat with greater emphasis the high opinion which we have expressed on previous occasions.

(1) *The Oxford Bible for Teachers.* (2) *The Oxford Helps to the Study of the Bible.* (Oxford University Press.) (3) *The Cambridge Companion to the Bible.* (Cambridge University Press.)—The *Oxford Bible for Teachers* is well known, and the edition before us surpasses all others as an achievement in printing. It is in minion type, octavo, on Oxford India paper; it is bound in levant morocco, with flaps, round corners, and red under gilt edges. It has a superior look, and is pleasant to handle and delightful to read.

"A thing of beauty is a joy for ever,"

and the young scholar or teacher who may receive this book for a prize or a present will in all probability hold it as a treasure to the end of his days. The *Helps to the Study of the Bible* is bound up with the Authorized Version, and is also published separately in long-primer type. Although it is but eight years since the whole book was submitted to a careful revision, many circumstances occurring in these years have combined to make it necessary that the *Oxford Helps* should be re-written. The completion of the Revised Version of the Old Testament, published in 1885, called public attention to the text of the Bible to an extent before unknown, and many questions of textual criticism and of interpretation were settled by it. The advances in archæology, the progress of linguistic science, and the work of the Palestine Exploration Fund, have all thrown much fresh light on every part and every Book. The present revision of the text has been carried out under the superintendence of the Rev. Canon Maclear, D.D., Warden of St. Augustine's College, Canterbury, who has incorporated contributions from the Rev. Canon Girdlestone, M.A. The order of the various sections is the same as in the earlier editions; information which, in the earlier editions, was dispersed or repeated, appears now in its proper place. The following are the chief changes and improvements:—the summaries of the Books and the brief summary of Old Testament History have been re-written by the editor; the itinerary of the Israelites to the Land of Canaan has been revised by Henry Courtier, F.R.G.S.; all the sections relating to Biblical chronology have been re-written and expanded by the Rev. S. G. Green, D.D.; a section on the witness of modern discoveries to the Old Testament narrative first appears in the present edition, and is the joint production of the Rev. Canon Girdlestone, M.A., Reinhold Rost, M.A., Ph.D., Librarian of the India Office, and Carl Bezold, Ph.D., with the co-operation of E. A. W. Budge, Litt.D., and E. Maunde Thompson, D.C.L., LL.D., of the British Museum; an historical sketch of the period between the Old and New Testaments, with the chronological table of the period, has been contributed by the editor; the sections on St. Paul's missionary journeys and the Apostle's

voyage to Rome have been re-written by the editor, with the addition of interesting notes and references to the historical truth of the narrative as confirmed by classical and other writers; a section on the political condition of Judæa in the first century A.D. appears for the first time in Part V.; that on Jewish sects and parties has been written by the Rev. S. W. Green, M.A., of Regent's Park College, with constant reference to the late Dr. Edersheim's "Jesus the Messiah" and to other authorities; the geography and topography of the Bible have been expanded from modern sources of information by J. Arnold Green, the Rev. S. W. Green, M.A., and Henry Courtier, F.R.G.S.; the geology and mineralogy of Bible lands by Professor Edward Hull, M.A., LL.D., F.R.S.; the sections on the precious stones and the botany of the Bible by L. Fletcher, M.A., F.R.S., Keeper of the Mineral Department, and W. Carruthers, F.R.S., Keeper of the Botanical Department, British Museum; the section on music and musical instruments of the Bible by Sir John Stainer, M.A., D.Mus., Professor of Music in the University of Oxford; and the most important of its various readings of the names of animals, &c., in the Revised Version have been embodied. The Concordance at the end of the volume and the general index have been considerably enlarged. The illustrations, which form a distinctive feature of the present edition, have been selected and described by E. Maunde Thompson, D.C.L., LL.D., Principal Librarian of the British Museum; A. S. Murray, LL.D., F.S.A., Keeper of Greek and Roman Antiquities, British Museum; and E. A. Wallis Budge, Litt.D., F.S.A., Acting Assistant-Keeper of Egyptian and Assyrian Antiquities, British Museum. They consist of facsimiles from the most ancient and authoritative manuscript versions of the Bible in Greek (Vaticanus, Alexandrinus, and Sinaiticus), Latin, Hebrew, Syriac, Samaritan, Arabic, and Coptic. A table of alphabets, showing the development of the Hebrew, Greek, and Latin alphabets from the Egyptian hieratic, and many Egyptian and Assyrian, Babylonian and Phœnician monuments, which refer directly to important historical events recorded in the Bible, have been added. The maps have been compiled by Henry Courtier, F.R.G.S., from the Palestine Exploration Fund Survey of the Holy Land (by permission of the Committee). Fresh information has also been derived from the publications of the Royal Geographical Society and kindred sources, both British and foreign, and the latest identifications have been inserted down to the month of March, 1893. This detailed account of the work will show how valuable a help to the study of the Bible it has become. *The Cambridge Companion* has been revised and enlarged under similar impulses, and so has kept pace with its rival. Special care has been bestowed upon its analyses of the books both of the Old and New Testaments. A large part of the work has been done by writers of eminence in the various subjects, such as Bishop Westcott on the sacred books of other faiths, Professor W. Robertson Smith on nations surrounding Israel, Professor Bonney on Biblical geography and geology; Professor Skeat has compiled the glossary. The articles on the canon of the Old Testament and the textual evidence for the New Testament embody in a compact form the results of the most recent scholarship. The maps, specially drawn for this work, also give all the geographical information that is required.

Memoranda Mnemonica: a Help to the Remembrance of Numbers, Historical Events, and Subjects Generally. By James Copner, M.A., Vicar of Elstow. (Williams & Norgate.)—This is a book well worth reading, dealing as it does with one of the most important faculties the development of which is the business of education. Without memory we could not reason, think, speak, or converse, for if we had no memory we should have nothing in our minds to reason, think, or speak about. The author's aim is "to elucidate in a popular way the psychology of memory, to give some practical suggestions for its improvement, and to show how an indifferent memory may be made far more serviceable than it would otherwise be," by means of such mnemonical devices as he supplies. The introductory chapter, on memory and recollection, is the best part of the work. The mode of the healthy development of memory may be described by two of the quotations facing title-page and preface—the first by De Quincey, the second by Samuel Rogers—"The memory strengthens as you lay burdens upon it, and becomes trustworthy as you trust it." That is to say, like other faculties, memory grows by exercise. But, again, memory acts by association:—

"Lulled in the countless chambers of the brain,
Our thoughts are linked by many a hidden chain."

Mnemonics depend for utility chiefly on this fact—one form of association being that of rhyming sounds. But the great danger of elaborating systems of mnemonics, such as rhyming dates of history, is that barren facts receive undue importance, and that they are made to accommodate themselves to the system. The key to the system itself is easily lost, and at the best it is often doubtful whether the whole effort demanded by the *memoria technica* is not greater than that required for the surrounding of the facts with natural associations. Of these points we may find examples in this work. The author himself helps us to some, for he admits that some of the mnemonical conceits adopted are of course ridiculous enough, but if they suffice for their purpose of prompting memory he sees no reason why they should be discarded. He thinks, for instance, that no one who had mastered the meaning of his mnemonical letters, and had attentively read over "the short pieces of doggerel in which they occur, would be likely very rapidly to forget the dates of the birth and death of so justly venerated a worthy as Bishop Butler, or the significance of the assertion that—

"'British Dryden, *Dei gratia*,
Strange to say, was born in Asia.'"

As illustrations of the adapting of facts to the needs of the system, we may note the following. By "Dry bones" a person is reminded that there are 240 bones in the human skeleton. It happens, however, that there are in the matured human skeleton 204 bones, exclusive of the teeth, but including the small bones of the ear. If the number were 240, it would perhaps be easily remembered by calling it a dozen score. Again, we are reminded that light travels, in round numbers, at the rate of 186,000 miles per second, reaching the earth in eight minutes, by the following stanza:—

"Light never lags, but thousands *ags*
Of miles per second spins,
From sun through space it runs its race
To earth in just eight mins."

We do not know exactly the first of these numbers, but astronomers are quite sure that the time taken by light to travel over the diameter of the earth's orbit is 16 minutes 27 seconds. Again, in regard to the standard points on the Fahrenheit's thermometer, is it easier to associate the 32 and 212 with the scale or with the following lines?—

"Water works contrarily,
Boiling *dad* and freezing *me*."

Certain rhymes that carry their own key are often useful; for instance, if it be worth while to make a laboured memory of the fact that the height of Mount Everest and the greatest depth of the Pacific are about the same, we have it as follows:—

"As high as highest mountain's head,
So deep is ocean's deepest bed."

Hence we conclude that the book must be used with discrimination; many useful hints are contained in it, but many games also which are not worth the candle.

Homer and the Epic. By Andrew Lang, M.A. (Longmans & Co. Price 9s. net.)—When some writer produces a large octavo volume to propound and support such a contention as that Bacon wrote the plays known as Shakespeare's, no one reads it to be convinced; it appeals only to a few who may find amusement in the subtle ingenuity with which agreements are made out of trifles. Such theories are started by their authors, as a barrister for practice may start an imaginary bad case, simply to exercise his skill in supporting it. Mr. Lang's work of four hundred and twenty pages is no ordinary work, and resembles the ordinary tome on such subjects as, "Who wrote the Letters of Junius?" or, "Who were the authors of the Pentateuch?" only in this one respect, that it will probably fail to convince the sceptic. The vices of such commentators are vigorously sketched by Mr. Lang himself. He tells us that the Homeric question, "the question of the unity of authorship, is a literary problem, yet attempts are constantly made to solve it by other than literary methods," and that such questions are matters of art, but are often approached,

"not in the spirit of art, but in that of a cross-examining barrister, or of an historical student testing the accuracy of a statement of facts. The habit of minute analysis produces a mental short-sightedness, and Homeric commentators see the mote immensely magnified, but have no eyes for the beam. They pore over the hyssop on the wall, but are blind to the cedar of Lebanon. They pick out, or invent, blemishes all but invisible, discrepancies which must exist in every fictitious narrative, and they regard these as only to be explained by diversity of authorship, and by the redacting, patching, and combining into a mechanical whole, of

lays, fragments, and mutilated epics wrought by many hands in many ages."

Mr. Lang may not be without some of the bias of the critics he here describes, and we may easily trace the characteristics of dogmatic assertion and assumed infallibility. What he proves or disproves becomes inextricably mixed with what he wishes to prove or disprove, and there is at times a great straining of small details. But all this is overpowered by much that is pure profit. He certainly justifies his claim that, whatever may be the urgent practical problems and distractions of the age, "men of letters are enlisted to keep flying the colours of the highest literature, of all that makes and records the flower of civilization." It is the mission of men of letters "to maintain, as best they may, the ever new and fresh love of what is old and excellent, the admiration of that divine poetry which during three thousand years has been the delight and the consolation of the world." Mr. Lang, after examining the arguments of other critics, from Wolf to Leaf, comes to the conclusion that the "Iliad," with the exception of the later part of the funeral games, and possibly of the Tenth Book, is one epic by one hand, and that the "Odyssey" is even, in a higher degree, one and indivisible; but whether there are two Homers, a Homer of war and a Homer of romance, he leaves an open question. He holds that the supposed errors of Homer are sometimes stratagems, oftener the oversights to which the greatest mortal geniuses are liable. We are not concerned to consider the differences between the unionist and the separatist, Mr. Lang and Mr. Leaf; both are worshippers of Homer, and both can give us of their light. We find the light in such passages as the following:—

"In Homer we see the face and hear the voice of the goddess, of the Muse, and are heartened to go forth and meet our destiny. The philosophy of Homer, simply as his problems are stated, is fortified against all vicissitude. His mind, like the mind of Herodotus, is constantly occupied by the thought of change—how the ancient city must fall, and fall, too, must its conqueror, slain on his own hearthstone in the full fruition of victory. Nay, the very civilization of which Homer sings, with all its valour, and art, and gold, is to go down before the assaults of the Dorians. His Achilles is the type of triumphant youth, but of youth with sheer doom before its eyes. To him

' One crowded hour of glorious life
Is worth an age without a name.'

His eyes are open from the first, and his choice is made."

Some of us may think the literary value of the "Iliad" and "Odyssey" is not affected by the question whether they were written by one man or many. The polished style and delicate critical art which Mr. Lang displays in the work before us, and which probably he possesses partly by inheritance and partly by cultivation, will make every thoughtful reader, however sceptical he may be on the points of literary criticism, love his Homer more, and desire more ardently to imbibe the inspiration of its lofty teaching.

Heath's English Classics.—Prometheus Unbound. Edited by Vida D. Scudder, M.A. (Cr. 8vo, pp. lviii., 172; price 3s. Isbister & Co.)—It is somewhat difficult to understand for whom precisely this edition of Shelley's masterpiece is intended. Its subject-matter, and the mode in which Shelley treats it, place the drama much beyond the range of the ordinary school; while Miss Scudder's notes—good though they are in many ways—are hardly likely to meet the requirements of a University student, at any rate in England. Doubtless, in her own classes at Wellesley College, she would supply what more was needed; but, judging the book as it stands, it seems to us to be an essentially adult subject, treated in a manner suitable for school-girls—despite the interesting section supplied by Miss Lucy H. Smith, A.B., entitled "Suggestions towards a Comparison of the *Prometheus Unbound* of Shelley, with the *Prometheus Bound* of Æschylus." The book is provided with a long preface (58 pages) dealing with the drama and the time, a study of the myth, and the drama as a work of art. It is fairly satisfactory—we cannot say more. It does, however, make a laudable attempt to strike the right keynote, and to set the student at the right point of view and turn his face in the right direction for understanding and enjoying the poem. The notes are well written and moderate in length (22 pages to 112 pages of text); but they are somewhat given to avoiding the difficulties rather than clearing them up, and they do not go very deeply into anything. Still, as we have said, they are good in their way and fairly helpful. They show rather æsthetic feeling than very clear insight.

University Correspondence College Tutorial Series.—A Manual of Ethics. By John S. Mackenzie, M.A. (Cr. 8vo, pp. xxvi, 339; price 6s. 6d. W. B. Clive & Co.)—Mr. Mackenzie is an Assistant Lecturer on Logic and Philosophy in Owens College, Manchester. His *Manual*, he tells us, is intended for the use of private students, and especially for those who are preparing for such examinations in ethics as those of the University of London. In its choice of subject-matter, its clearness of statement, and orderliness of arrangement, it seems to us excellently suited to its purpose. The design is to give, as briefly as is possible without loss of intelligibility, an outline of the most important principles of ethical doctrine, introducing little or no metaphysics, and at the same time indicating the general position of the chief schools of ethics, and showing to what extent they are in fundamental agreement. The point of view adopted is that of the school of idealism—the school founded by Kant, and developed by Hegel, Green, and others—and, where this view requires more detailed treatment and explanation, these are given in "notes" (in small type) at the end of the chapters, which are by no means the least interesting parts of the book. Mr. Mackenzie modestly—too modestly—tells us that, had his *Manual* not been arranged for prior to the publication of Mr. Dewey's "Outlines of a Critical Theory of Ethics," and Mr. Muirhead's "Elements of Ethics" (which we noticed not very long ago), he probably would not have undertaken it. We are glad that things happened as they did; and we are not by any means sure that we do not prefer Mr. Mackenzie's *Manual* to Mr. Muirhead's "Elements." In any case, the student has now the opportunity of considering the same problems treated by two able and well-informed writers who, though in the main at one, do not view the problems in quite the same way. We may notice, in conclusion, that Mr. Mackenzie evidently knows his Browning and his Wordsworth well, and frequently makes very apt quotations from them—in fact, he writes as a well-read man, as well as a specialist. The book concludes with a short but useful appendix, which gives "hints on further reading."

The Student's Froebel. Part I., Theory of Education. By William H. Herford. (Cr. 8vo, pp. xvi., 112; price 2s. 6d. Isbister & Co.)—Mr. Herford's services in spreading a knowledge of Froebel's educational views must be by this time well known to all who have taken an interest in matters connected with the kindergarten, the importance of which is now so widely recognised. By publishing this little book he has done us yet another service. It is an adaptation of the "Education of Man." All, or at any rate most, of the important passages are extracted, and then strung together, either by Mr. Herford's own explanations, or by paraphrases of what has been omitted, so that the new book shall, as far as possible, read as a connected whole. The "Education of Man," no doubt, needs pruning and explanation to make it quite intelligible to the young student; but Mr. Hinlmann has, we think, gone almost far enough in this direction. Mr. Herford goes much further—not, we fear, with the result of making things any clearer. Indeed, he does not seem to appreciate the difficulties of Froebel's mysticism, and even (if we may be pardoned for saying so) seems to be a little inclined to mysticism himself. The young student does not require Froebel's rhapsodies nearly so much as a clear statement of his principles and method, and his reasons for them and what he proposes to effect by them. However, we must not be ungrateful. The book undoubtedly will prove helpful, and evidently has been a labour of love. It is very well printed and prettily bound. Part II. will deal with the practice of education, and will, we hope, contain many extracts from Froebel's Kindergarten essays.

Charity Organization Series. The Better Way of Assisting School Children. (Cr. 8vo, pp. 152; price 2s. 6d. Sonnenschein & Co.)—For many years past the Charity Organization Society has, from time to time, issued reports and pamphlets on the subjects with which it deals, and the inquiries which it conducts. The Society has at length, and, we think, very wisely, decided that in future these publications shall take the form of a regular series of small books. The small book before us is the second volume of this new series. It consists of a very carefully compiled report on experiments in the organization of charity for the better assistance of children in elementary schools, together with some suggestions and recommendations. It has been drawn up by the Rev. Dr. Bradley, Mr. H. C. Bourne, Mr. Cyril Jackson, Mr. R. A. Valpy, Rev. R. Leach, Mrs. A. L. Leon, Rev. W. C. Bowie, Rev. J. L. Evans, and the indefatigable secretary, Mr. C. S. Loch. It gives details of methods recently

adopted in schools at Victoria Place, Vere Street, Great Wild Street, Drury Lane, and Northey Street (Limehouse). It argues the *pros* and *cons* of the *individual* and the *general* method; and gives an account of previous action with regard to Mr. Francis Peek's gift, and school meals for school children. Altogether it is a workmanlike and valuable handbook on its subject, and will prove of the greatest assistance to all who interest themselves in these matters. Space will not allow us to enter into details; but we would call special attention to the excellent proposal for the formation of a committee composed of representatives of school managers, the Country Holidays Fund, parochial and other local workers, and the Charity Organization Committee, with the addition of a certain number of headmasters and headmistresses. The economy of time and effort, and the all-round increase of effectiveness which would arise from such a plan, must be evident at once to every one who has had any experience in any one of them. Such books as this cannot but do much to promote true charity and charitable effort, and to guide to really valuable uses that well-meant, but irresponsible and ill-informed alms-giving which pauperizes, while it does not permanently relieve those in distress.

Spanish Literature: an Elementary Handbook, with Indices, &c. By H. Butler Clarke, M.A. (Swan Sonnenschein & Co.)—What is there to read in Spanish besides Cervantes and Calderón? and What editions should be used? are questions frequently asked. The volume before us is intended to answer these questions, and to show the position occupied by the great writers in the general scheme of the literature of their country. No one is better qualified for the task than the Taylorian Teacher of Spanish in the University of Oxford, who has written a general sketch, which will prove useful to the general reader and to the beginner, and will serve as an introduction to more extensive works. He wisely avoids divisions into periods, which are of necessity somewhat arbitrary, and adopts, in preference, divisions of topics thus: chronicles and romances of chivalry, ballads, the novel, mystic and religious writings, history, didactic works, &c., are dealt with in separate chapters; extracts characteristically Spanish in subject and of sufficient interest to induce readers to refer to the books from which they are taken, relieving the monotony of a long list of short notices of authors. Among a host of examples outlines of the writings and sketches of the lives of Cervantes, Lope de Vega, Quevedo, Calderón, Guillén de Castro, and of him who wrote under the pseudonym of Tirso de Molina, stand prominently forth, and are particularly interesting and helpful. The gradual falling-off in the quality of Spanish literature—for the writings of the present day cannot vie with those of a more glorious age—shows itself in almost every page, and a longing for a revival in the literature of the most stately of languages, although unexpressed, is evidently the key-note of the latter portion of the author's work. The Indices deserve a word of praise: they are two in number, one containing an alphabetical list of authors and editions recommended for a course of Spanish reading—not a bibliography of rare editions dear to collectors, but a list of cheap and easily obtainable editions of books best suited for a preliminary course of reading; the other a list of a few of the principal authorities on Spanish literature, Castilian and Catalán.

History of English Literature. By Bernhard Ten Brink. Translated from the German by Wm. Clarke Robinson, Ph.D. Vol. II. (George Bell & Sons.)—The first volume of this work appeared ten years ago, and reviewed the history of English literature from the earliest times of the ancient hymnic poetry and the old Teutonic deities, up to the close of Piers Plowman's "Vision." The volume before us is, practically, a history of Chaucer and his works. In it Ten Brink has embodied the results of his Chaucer Grammar and his Chaucer Studies, books which established him as the foremost authority on the poet. The story of Chaucer's life and his works are discussed in chronological order, with special reference to the life of the time and the various external influences affecting the poet. The second part of the present volume breaks off from the continuous discussion of the minor poets following Chaucer, to consider the origin of the drama and the earliest examples of it in England. The death of Ten Brink, in January of last year, at the age of fifty-one, deprived us of one who was pre-eminent, even among scholars in Germany, both as a philologist and as a literary critic. Another volume will complete all that we can have of Ten Brink's *History of English Literature*.

Ancient India, 2000 B.C.—800 A.D. By Romesh Chunder Dutt, C.I.E., I.C.S. (Longmans.)—This is the first of a series of

Epochs of Indian History. The history of India during the past four thousand years is the story of many countries, of many nations, of many languages, and of many religions. In all the short histories that have attempted to cover the whole ground, the writers have brought to the front the epoch they have studied in detail. The object of the present series is to correct this tendency by assigning each epoch to a writer who has made it a subject of special research, the task of preserving continuity on the one hand, and preventing overlapping on the other, being left to the general editor, Mr. John Adam, M.A., late Scholar of Pembroke College, Cambridge, and now principal of an Indian college. The volume before us summarises the history of ancient India down to the time when the Hindu sovereignties were swept away for ever by Muhammedan invaders from the north. The next three volumes to be issued all deal with the same chronological epoch, but under three different ethno-geographical divisions.

OUR LIBRARY TABLE.

Torch-Bearers of History: a Connected Series of Historical Sketches. By Amelia Hutchinson Stirling. (T. Nelson & Son.)—The object of this series of historical sketches is "to give young readers some idea of the way in which the torch of history has been handed on in Europe from age to age, and from nation to nation, beginning with ancient Greece, and coming down to modern Germany." To achieve this object the writer has selected, out of each of the great epochs, "some representative man or woman whose life was capable of forming an interesting story, taking care to connect the different sketches, as far as was possible, without introducing too much detail." The work is in two parts: Part I. deals with prehistoric times, and extends down to the fall of the Roman Empire of the West. In this part, Homer, Sophocles, Socrates, Alexander the Great, Regulus, Julius Cæsar, Virgil, and Hypatia are the torch-bearers. Part II. brings us down to the Reformation, and includes sketches of King Arthur, Charlemagne, Rollo, The Cid, Richard Cœur de Lion, Dante, Robert Bruce, Joan of Arc, Columbus, Copernicus, and Luther.

Napoleon. By W. O'Connor Morris. (Putnam's Sons.)—Napoleon has had many biographers, which is not to be wondered at, considering his figure towers over all other figures during the first years of the present century. The author of this work has honestly endeavoured to steer a middle course between excessive adulation and excessive detraction. Of late years the genuine sources of information respecting Napoleon have largely increased, since the fall of the family mainly concerned in presenting a one-sided view of his character; and the author has drawn largely on the supply of information at his disposal, using for his purpose the work of Thiers on "The Consulate and the Empire," Alison's "History," the works of Mr. Fyffe and M. Taine. He has also consulted Napoleon's own writings, the works of the Archduke Charles, the dispatches of Wellington, and other "souvenirs" and "memoirs."

New "Graphic" Series.—The "Graphic" Primers, The "Graphic" Readers, The "Graphic" Geographical Readers. (Collins.)—This series is a new departure in school-books. The Primers have coloured illustrations, and a profusion of engravings, and have been prepared by a lady of experience. The Readers are printed in bold type, on good paper, and have an abundance of illustrations, some of which are coloured. They possess some distinctive features: the lessons are fresh, interesting, entertaining, and instructive; many of them are in conversational and dialogue form; maxims and quotations are inserted to instil principles of truthfulness and courage. The Geographical Readers present pleasant matter for reading. Special coloured maps and illustrations are abundant, while the pronunciation is given of all names likely to present any difficulty.

The Empire Large Shilling Atlas (Collins) contains twenty-four full-sized maps, in which are inserted all the important places in the world. The maps are well coloured and neat in appearance, but the outlines are insufficiently definite.

Class Register. (Moffatt & Paige.)—This Register is arranged without the fee columns, and seems well suited for use in elementary schools.

The English Historical Review. (Longmans.)—The current number of this Review contains articles on "The Emperor Zenon and the Isaurians," by E. W. Brooks; "Anglo-Saxon Law," by Sir Frederick Pollock, Bart., LL.D.; "Naval Preparations of James II. in 1688," by J. R. Tanner; and "Lally's Visit to England in 1745," by Fredk. Dixon. The notes and documents form, as usual, an interesting feature, while the reviews of historical books, lately published, maintain their high character.

New Unseen Tests. (A. M. Holden.)—These Unseen Tests in dictation and reading are for the use of inspectors, teachers, pupil-teachers, and scholars, and are specially designed to meet the requirements of the New Code, 1893. They are in three books, and are prepared for Standards III.—VII. They have been carefully compiled, and seem well suited for the purpose for which they have been prepared.

The Standard Arithmetic. (Collins.)—This new Arithmetic has been

specially prepared to meet the requirements of the Education Code. It contains a vast number of suitable exercises, test questions, and examination questions, also reduction tables for class drill, and sections on the metric system.

Papers on Cicero "De Senectute," Grammatical and Historical. By Fras. J. Borland. (Relfe Brothers.)—These papers, twenty-three in number, corresponding to the chapters in Cicero's *De Senectute*, will be useful for a revision of the grammar and syntax contained in the work. Sentences for translation into Latin, questions on the book from recent examinations, and a few questions on historical facts alluded to in the course of the discourse, are appended.

Decorative Needlework. By May Morris. (Joseph Hughes & Co.)—This book is written for those who have a love for embroidery, and a wish to devote a little time and patience to its practice. The work is admirably produced, with very ample margins and linen covers decorated with a "powdered" pattern. The frontispiece is a representation of a piece of English embroidery (about 1340) in the South Kensington Museum. The subject is first treated from a historical point of view; then the various stitches are described, and the following topics receive attention: couching and applique; patchwork and quilting; design, convention, and realism; contrast and repetition; lines and curves; colours and colouring.

The New Readers. Second and Third Books. By Professor Meiklejohn. (A. M. Holden.)—In the second and third books of this series of *Readers* the distinctive features, to which we have already referred, are maintained. The illustrations and typography are excellent.

Herodotus, Book VIII. Edited by J. Thompson, M.A., and R. M. Thomas, M.A. (W. B. Clive & Co.)—The introduction to this edition deals with the origin of Greek history, and gives a life of the historian, an account of his travels, and an estimate of his work. There is also a sketch of his history, the argument of Book VIII., and a comparison of the Ionic dialect with the Attic, chiefly from Abicht's "Uebersicht über den Herodotischen Dialekt." The text is clearly printed, and the notes are mainly grammatical, with valuable synopses of clusters of chapters.

Molière, "Les Femmes Savantes." By G. H. Clarke, M.A. (Williams & Norgate.)—A useful school edition; the introduction includes an interesting sketch of the disposition of a French theatre in Molière's days, and the notes, without being too copious or learned, are calculated to render real help to the student into whose hands a text of Molière is placed for the first time.

Goethe's "Italienische Reise." By Beresford-Webb. (Percival & Co.)—This carefully annotated selection from Goethe's celebrated letters from Italy should form an interesting and useful class-book. It is furnished with a sketch of Goethe's early life, a map illustrative of his Italian travels, and several pages of useful notes.

(1) *German Lessons.* By Charles Harris. (2) *Andersen's "Märchen."* By O. P. Super, Ph.D. (3) *Heyse's "L'Arrabbiata."* By Dr. Wilhelm Bernhardt. (4) *Eichendorff's "Aus dem Leben eines Taugenichts."* By Osthaus. (Heath & Co., Boston, U.S.A.; Isbister & Co., London.)—(1) A clear and well-arranged series of elementary German lessons. The student who has worked through them should need no further help, beyond that of a good dictionary, to enable him to read any German text of reasonable difficulty. (2) The quaint and suggestive fairy tales of Hans Christian Andersen have long since won a high position in England as a child's book. The selection which lies before us, in German, is intended to be used as an elementary German reader. The same simplicity of style which is one of the greatest charms of these tales to the ordinary reader, also fits them admirably for this use, and the fact that they may already be familiar to their young readers in their English dress, by no means detracts from their usefulness. The notes are few in number, doubtless because few are needed, and a copious vocabulary is provided, together with a table of irregular verbs. (3) Paul Heyse, the author of *L'Arrabbiata*, is recognised as one of the leading German novelists of the present day. The picturesque style and artistic finish of his work makes it as enjoyable to read as it is profitable. This edition of *L'Arrabbiata*, provided with a vocabulary and some half-dozen pages of notes, should be a welcome addition to the stock of German texts for use in English schools. (4) Eichendorff has been called the "last knight of Romanticism," and his *Leben eines Taugenichts* is, undoubtedly, one of the finest fruits of the romantic school in Germany. No more charming book could be found for a fairly advanced German class, and we can cordially recommend this edition as supplying the student with the necessary aids to its study.

Our Little Ones: a Series of Story-Book Readers for Infant Schools. (T. Nelson & Sons.)—These little *Readers* contain interesting stories, and are well illustrated. They will suit the requirements of the upper classes in infant schools, serving as good introductory books to Standard I. work. Short spelling exercises are included.

(1) *The Merchant of Venice, with Introduction and Notes.* (2) *The Lay of the Last Minstrel, Cantos I.-III., with Introduction and Notes.* (Blackie & Son.)—The former of these volumes is intended for young pupils. Hence the text has been carefully purged of expressions not in accord with modern ideas of propriety, and the notes are very numerous and elementary, dealing with most, if not all, the difficulties which beginners are likely to meet with. Allusions are fully explained, free paraphrases

are given, and metaphors have been expanded. The introduction is free from contentious matter, and the notes are brief. In an index are classified some of the characteristics of the play. In the latter volume such expressions and allusions as might be mistaken or missed by the young student are explained in the notes, and grammatical hints are given with suggestions of points for comparison and contrast between Scott's diction and that of other and chiefly earlier poets. Derivations receive a due amount of attention.

Elementary Lessons in the Notation of Whole Numbers and of Decimal Fractions. By J. Emerson Dowson. (Ruddiman Johnston.)—The first part of this work is intended for Standard IV., to prepare scholars for learning the metric system of weights and measures in the higher standards, and contains elementary and pictorial lessons, with exercises. Part II. is intended for Standards V., VI., and VII., and gives the principles of the metric system, and an explanation of the advantages to be gained from uniformity in the method of forming multiples and sub-multiples of the unit. Short chapters on decimal coinage and interest have been added.

Mathématiques et Mathématiciens: Pensées et Curiosités. Par M. A. Rebière. 1 Vol. in 8vo. (Librairie Nony, rue des Ecoles 17, Paris. Prix 5fr.)—This is the second edition of a work consisting of historical, philosophical, and anecdotal sketches in mathematics. It is a collection of extracts which are both instructive and interesting. The work, though serious in the main, is written in a style uniting acumen with humour. At the end of the work are some "Recreations in Mathematics," that is to say, problems "plaisants et délectables," as Bachet de Méziriac used to say.

Louis Agassiz: his Life and Work. By C. F. Holder, LL.D. (G. P. Putnam's Sons.)—The effect of the teachings and work of the Swiss-American naturalist upon the world has been pronounced and far-reaching; his personality and methods took the New World by storm, and gave a fresh impetus to American science. Jean Louis Rudolphe Agassiz was born May 28th, 1807, in a little village among the Bernese Alps. The peculiar bent of his mind was early manifested by his love for all living creatures, and his intense interest in natural history. After a few months at Heidelberg, he went to Munich, where he obtained his degree of Doctor of Philosophy at the age of twenty-three, followed, a few months later, by that of Doctor of Medicine. In 1838, Agassiz was honoured with membership by the Royal Society of London. He was then but thirty years of age, yet few scientists in all Europe had greater results to show than this young teacher. When, in 1846, he landed in America, he was accorded a warm and enthusiastic welcome, and henceforward it was as an American scientist that he lived, laboured, and taught. This book is written in an interesting manner by an appreciative and admiring biographer; the printing is clear, the pictures numerous, and the binding neat and appropriate.

Stories from English History. Book III. By D. Salmon. (Longmans.)—This little book comprises stories from English history, extending over the period of the Roman rule and Saxon and Danish dominion. It is copiously illustrated, some of the pictures being coloured in a style which, though perhaps not possessing considerable artistic merit, will doubtless be attractive to the children for whose use the book is intended.

(1) *Finnish Legends for English Children.* By R. Eivind. (2) *The Pentamerone, or the Story of Stories.* By Giambattista Basile. Translated from the Neapolitan by John Edward Taylor. New Edition, Revised and Edited by Helen Zimmern. (T. Fisher Unwin.)—Both of these editions belong to the Children's Library—volumes well known for their delightful sprigged covers and end-papers. In their quaint dress they are attractive and sure to catch the eye at first sight, and, by their charming exterior, invite the natural child to inspect their good drawings, and read the very old and very good tales which they contain. The *Finnish Legends* cover almost all the songs of the Kalevala, the epic of the Finnish people. Nowhere will one find a more beautiful land than Finland, nor a braver, truer, and more liberty-loving people than the Finns, and happy the child who, inspired by the tales of a new fairy world, is led to have an actual interest in the Finnish people. The *Pentamerone* is a collection of fifty fairy tales, written in the Neapolitan dialect, which have become the veritable storehouse from which all other authors of fairy tales have drawn their stories. They are supposed to be told by ten persons in the course of five days, each day ending with a play or a song. After passing from the hands of the author, they have been partly freed from offensive words and expressions by Mr. Taylor, and finally are presented by Miss Zimmern in a form adapted to juvenile ears, and fairly deserve the sub-title given them by Basile—Amusement for the Little Ones.

NEW EDITIONS.

Graded Exercises in Higher Arithmetic and Mensuration. (Collins.)—In the re-issue of a new edition of this work, suitable and conversational lessons on each rule have been added. This will supply a want felt by those using the book. The short chapter on the metric system will also be found of good service.

The New Code (1893-4). By Thomas E. Heller. (Bemrose & Sons.)—This, the twenty-ninth edition, has been revised and brought up to date. All changes in the *Code* for 1893 are printed in italics. The edition is a

very complete one, containing all official circulars, forms, &c., in their latest revised form.

Concrete Arithmetic; an Introduction to the Elements of the Abstract Science of Number for Young Children. By Temple Orme. (O. Neumann.)—The second edition of this work bears evidence of careful revision, and will, in its present form, be of great assistance to those entrusted with the early education of the young.

Atlas Antiquus. Twelve Maps of the Ancient World for Schools and Colleges. By Dr. Henry Kiepert. (Williams & Norgate.)—This atlas is published by a Berlin firm and has reached an eleventh edition. It has been improved, corrected and enlarged by the addition of a list of names.

Handybooks for Handicrafts. By Paul N. Hasluck. (Crosby Lockwood & Son.)—These handbooks were written to supply information for workmen, students, and amateurs in the several handicrafts, on the actual practice of the workshop. They convey in plain language technical knowledge of the several crafts. They are evidently well appreciated, for all have reached a second or even a third edition. In describing the processes employed and the manipulation of the material, workshop terms are used; workshop practice is fully explained; and the text is freely illustrated with drawings of modern tools, appliances, and processes. The information given will be found useful not only by the young beginner but by the veteran whose range of experience has been narrowed under a system of divided labour; while the amateur will find himself introduced to the very atmosphere and surroundings of the workshop. The *Handybooks* deal with metal and wood turning, watch jobbing, pattern making, the mechanic's workshop, model engineering, clock jobbing, cabinet work, wood work, and metal work.

A Handbook of Algebra; specially adapted to the requirements of Pupil Teachers and Scholarship Candidates. By Herbert Wills. (Jarrold & Sons.)—Examples are the main feature of this *Algebra*. They have been culled from examination papers set to pupil teachers, scholarship, and first year certificate candidates, so that to pupil-teachers and scholarship candidates the book will have a special attraction. The theoretical portions of the book have been arranged in a simple, concise, and methodical manner.

German Historical Reading Book. Edited by Beresford Webb. (Percival & Co.)—This is a carefully compiled selection of historical episodes and descriptions from eminent German writers, illustrating some of the most interesting epochs of European history. The subject-matter is sufficiently varied, and the authors who have been laid under contribution very representative. Thus, a chapter in the history of the Revolt of the Netherlands is given in Schiller's words, Freytag contributes a sketch of the Ancient Germans, the stories of Luther and of Götz von Berlichingen are told by Grube, Ranke gives an account of Cromwell and the Protectorate, Pauli of Alfred and the Danes, Müller of the Battle of Sempach, &c. Each extract is prefaced with a short introduction in English, and, where necessary, links are supplied between different parts of the narrative. The book is carefully annotated, clearly printed, and neatly bound, and should be an interesting and useful reading book for advanced German classes.

German Reading Book. Edited by A. Müller. (Williams & Norgate.)—A collection of short anecdotes, longer tales and poems, with vocabulary which would be suitable for use as a first German reader. The poetical section might profitably have been a little longer. The whole of Schiller's "Lied von der Glocke" might well have been given, for example, in place of the short extract.

German Idioms. Tr. Heinrich Weisse. (Williams & Norgate.)—A useful selection of the most commonly used German idioms, arranged alphabetically. This book might be profitably used for memory work side by side with the study of grammar.

We called attention in a recent number to circular No. 322 lately issued by the Education Department. The views which it set forth are still further emphasized by the revised instructions to other Inspectors more recently issued. In the latter, paragraph 10 deals with the application of kindergarten principles to the work of children who have passed from the infant school, stating that "elementary drawing, dialogues, picture and object-lessons, the cutting out and inventing of paper patterns, modelling, weighing and measuring, and musical drill, are not only useful in diversifying the day's employment in the lower standards of the school for older children, but they will be found to increase the brightness and intelligence with which those children pursue the regular course of elementary instruction. Moreover, such exercises will serve as a valuable link connecting the work of the infant school with some of those forms of technical or manual training which are now, with very great advantage, adopted in the upper classes of many good schools. It is one of the chief objects of the Kindergarten to establish a right and harmonious relation between those lessons which are addressed to the memory and the understanding of a child, and those interesting manual and other exercises which call forth his active and observant powers. And this is an object which ought to be kept steadily in view throughout all the subsequent stages of a scholar's career in a public elementary school."

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending May 31st, 1893.

- Æschylus's *Choephoroi*, with an Introduction by A. W. Verrall, 8vo, 12s. cl.
 Alexander's (W.) *Primary Convictions*, being Discussions, cr. 8vo, 6s. cl.
 Aristophanes's *Vespac*, translated by F. G. Plaistowe, 2s. 6d. cl.
 Bevan's (G. P.) *Home Geography of England and Wales*, cr. 8vo, 4s. 6d. cl.
 Blackie's (W. G.) *The Book of Joshua*, cr. 8vo, 7s. 6d. cl.
 Book of Job, with Notes by C. Siegfried, translated by R. E. Brunnow, 4to, 3s. 6d. swd.
 Bottone's (S. R.) *Electricity and Magnetism*, cr. 8vo, 3s. 6d. cl.
 Browne's (A. J. J.) *Geology*, cr. 8vo, 4s. cl.
 Cannan's (E.) *History of the Theories of Production and Distribution in English Political Economy*, 8vo, 16s. cl.
 Cook's (Capt.) *Journal during his First Voyage*, Literal Transcription of the original MSS., edited by Wharton, 21s.
 Czapski (S.) *Theorie der optischen Instrumente*, 9m. 60.
 Darmesteter (J.) *Zend-Avestan*, Traduction nouvelle avec Commentaire, Vol. 3 20fr.
 Demosthenes *Adversus Leptinem*, translated by F. E. A. Traves, cr. 8vo, 2s. 6d. cl.
 Deutsche Lyriker d. 16 Jahrh., hrsg. v. G. Ellinger, 2m. 80.
 Dixon's (C.) *The Nests and Eggs of British Birds*, cr. 8vo, 6s.
 Dobson's (A.) *Horace Walpole, a Memoir*, cr. 8vo, 10s. 6d. cl.
 Dowden's (E.) *Introduction to Shakespeare*, cr. 8vo, 2s. 6d. cl.
 Dulce Domum, edited by J. Farmer, 5s. cl.
 Evans's (Mrs. F.) *Some Legendary Landmarks of Africa*, 3s. 6d.
 Fletcher's (W. J.) *An Index to General Literature*, 25s. cl.
 French Jansenists, by Author of "Many Voices," cr. 8vo, 6s.
 Froude's (J. A.) *History of England*, Vols. 7 and 8, 3s. 6d. each.
 Glasson (E.) *Histoire du Droit et des Institutions de la France*, Vol. 5, 40fr.
 Goethe's *Italianische Reise*, a Selection, edited with Notes by H. S. B. Webb, 12mo, 2s. cl.
 Goschen's (Right Hon. G. J.) *The Cultivation and Use of Imagination*, cr. 8vo, 2s. 6d. cl.
 Gregory (R. A.) and Christie's (J. C.) *Advanced Physiography*, cr. 8vo, 4s. 6d. cl.
 Greswell's (W. P.) *Outlines of British Colonisation*, 6s. cl.
 Hammond's (Rev. J.) *First Book of Kings*, cr. 8vo, 2s. 6d. cl.
 Jackson's (R.) *English Grammar*, 12mo, 2s. 6d. cl.
 Jews of Angevin England, Documents and Records collected and translated by J. Jacobs, 12mo, 4s. cl.
 Junior Local School Arithmetic, with Answers, 12mo, 2s. cl.
 King (The) and the Kingdom, a Study of the Four Gospels, 4 Series, 8vo, 3s. 6d. each, cl.
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PROPOSED DEGREE IN EDUCATION.

SCHEME OF EXAMINATION ADOPTED BY THE CONVOCATION OF THE
 UNIVERSITY OF LONDON.

I. PRINCIPLES.

A. Science underlying Education.

1. Physical.—Elements of Human Physiology, with special reference to the bodily characteristics of childhood and youth, and the conditions of the healthy development of body and mind.
2. Mental.—(a) *Psychology*, with special reference to the natural basis of individuality, and to the action of external conditions on the development of mind. (b) *Logic*, including the analysis of the processes which issue in logical thought, and its failures, and the logical methods of the discovery and exposition of knowledge. (c) *Ethics*, including the development of good and bad character, the ethical value of the different educational agencies, as well as the consideration of various ideals of conduct and character.

* * * These subjects shall be treated as required for the B.A. and B.Sc. Honours, besides the special developments mentioned above.

B. Philosophy of Education.

- (1) The Doctrine of Educational Ends. (2) The Political Philosophy of Education, including the educational function of the Family and of the State, and the relation of Education to social stability and progress.
- (3) The History of Educational Theories and Systems.

II. APPLICATION OF PRINCIPLES.

A. Methodology of Education.

- (1) Determination of knowledge values, with a view to the selection of subjects of study. (2) Arrangement of these subjects. (3) Methods of exposition appropriate to these subjects. (4) History of educational methods.

B. Organization of Education.

- (1) The home, the school, and the University: their several functions and mutual relations. (2) The construction of the system of education in its several branches, as physical, intellectual, and moral education.

MEETING OF THE COUNCIL OF THE COLLEGE OF
 PRECEPTORS.

A Meeting of the Council took place at the College, Bloomsbury Square, on the 24th May. Present—Dr. Wormell, Vice-President, in the Chair; Mr. Barlet, Mr. Bidlake, Rev. A. W. Boulden, Mr. Brown, Dr. Buchheim, Mr. Charles, Mr. Chettle, Rev. Canon Daniel, Dr. Dillon, Mr. Eve, Rev. Dr. Frost, Mr. Harris, Rev. Dr. Hiron, Rev. W. T. Jones, Mr. Kimber, Mr. Maxwell, Mr. Milne, Mr. Pinches, Rev. Dr. Poole, Mr. Reynolds, Mr. Rule, Mr. Storr, and Rev. J. Twentyman.

The minutes of the last meeting were read and confirmed.

The Secretary reported a large increase in the number of candidates entered for the Midsummer Certificate Examination as compared with the corresponding examination last year. There was also a satisfactory increase in the number of entries for the mercantile certificate, and for the oral examination in French and German.

The report of the Examination Committee was adopted.

The report of the Literary Committee was adopted.

The following persons were elected members of the College:—

Mr. A. W. Batchelor, M.A., B.C.L., L.C.P., Clarendon House School, Norwich.

Miss E. C. Chaffer, L.C.P., The George Green Schools, Poplar, E.

Rev. A. H. Fish, B.A., B.Sc., Arnold House, Chester.

Miss A. A. Garlick, A.C.P., St. Helen's Lodge, Swansea.

Mr. W. Gurd, A.C.P., Wilson's Hospital, Multyfarnham, Ireland.

Mr. G. S. Honey, C.M., Drake's School, East Budleigh, Exmouth.

Miss A. McNamara, A.C.P., Ivy House School, 110 Fortess Road, N.W.

Mr. G. Riddle, A.C.P., New College, Margate.

Miss M. E. Smith, A.C.P., The High School, Dewsbury, Yorks.

The following books had been presented to the Library since the last Meeting of the Council:—

PHILIP & SON, G.—Philips' "Examination" Drawing Test Cards, Sets 1, 2, and 3;
 Wilcocks' "Practical" Guide to Scale Drawing.
 WHITTAKER & Co.—Bottone's Electricity and Magnetism.

MATHEMATICS.

10631. (Professor CURTIS, M.A. Suggested by 10497.)—If $S_1 = 0$, $S_2 = 0$, $S_3 = 0$ are three conics having two common points P, Q, the equation of any conic passing through the same two points and touching the three conics is $\{(23)S_1\}^{\frac{1}{2}} \pm \{(31)S_2\}^{\frac{1}{2}} \pm \{(12)S_3\}^{\frac{1}{2}} = 0$,

wherc (23) is found thus:—A common tangent is drawn to S_2 and S_3 . The points of contact are joined to P and Q, and the area of the triangle formed by the tangent and the two joining lines is divided by the product of the three perpendiculars dropped from the three vertices to the line PQ. The quotient is (23).

Solution by the PROPOSER.

By CASEY's *Conics*, the transformation

$$X = \frac{ax}{c+x} \cdot Y = \frac{ay}{c+x}$$

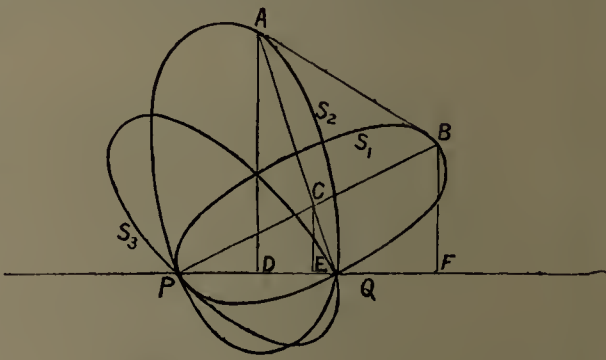
is equivalent to Geometrical, where the line at infinity is projected into $c+x=0$. Therefore

$$\begin{vmatrix} X_1 & Y_1 & 1 \\ X_2 & Y_2 & 1 \\ X_3 & Y_3 & 1 \end{vmatrix} = \frac{a^2c}{(c+x_1)(c+x_2)(c+x_3)} \begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix};$$

or else, if the area of the triangle ABC be projected into $A'B'C'$ and p_1, p_2, p_3 be the perpendiculars from A', B' , and C' , on the projection of the line and infinity,

$$\frac{ABC}{p_1 \cdot p_2 \cdot p_3} = \frac{A'B'C'}{p_1 \cdot p_2 \cdot p_3}$$

[The rest in Volume.]



11850. (BELLE EASTON, B.Sc.)—The weight of a common steelyard is Q, and the distance of its fulcrum from the point from which the weight hangs is a when the instrument is in perfect adjustment. The fulcrum is displaced to a distance $a+\alpha$ from this end; show that the correction to be applied to give the true weight of a body, which in the imperfect instrument appears to weigh W, is $(W+P+Q) \{ \alpha / (a+\alpha) \}$, P being the movable weight.

Solution by REV. T. R. TERRY, M.A.; W. J. CONSTABLE, M.A.; and others.

Let G be the centre of mass of the instrument, and F the fulcrum.

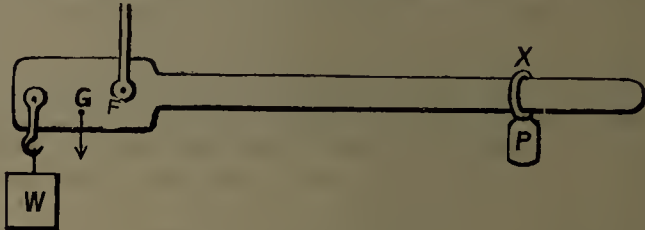
Let X be the position of P in the correct instrument when

the real weight is W, then $P.FX = Q.FG + a.W$ (1).

In the faulty instrument the weight of the substance is really $W-w$. But since W is the indicated weight, P remains at X. Therefore

$$P(FX-\alpha) = Q(FG+\alpha) + (a+\alpha)(W-w) \dots\dots\dots (2).$$

$$\text{From (1) and (2)} \quad (P+Q+W)\alpha = (a+\alpha)w.$$



11821. (Professor CROFTON, F.R.S.)—Two equal eircles AOD, BOC are cut by a third equal circle ABCD, the two former touching each other at O, a point internal to the third (radius = 1). If we put $\alpha, \beta, \gamma, \delta, \mu, \nu$, for the arcs OA, OB, OC, OD, AB, CD, prove that

$$\mu + \gamma + \delta = \nu + \alpha + \beta = 180^\circ, \quad \cos \mu + \cos \gamma + \cos \delta = \cos \nu + \cos \alpha + \cos \beta, \\ \cos \alpha + \cos \beta + \cos \gamma + \cos \delta = 2.$$

Solution by W. J. DOBBS, B.A.; H. W. CURJEL, B.A.; and others.

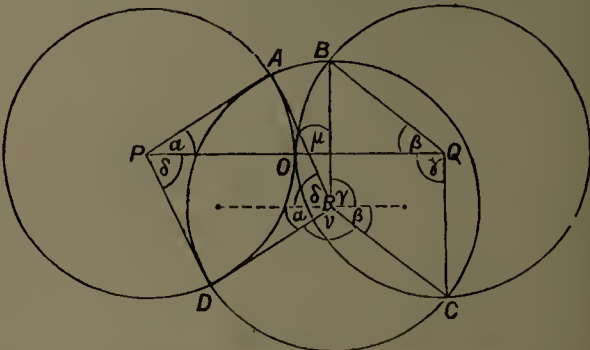
If P, Q, R be centres of the circles, each of the figures ARDP, RBQC is a rhombus; hence

$$\mu + \gamma + \delta = \nu + \alpha + \beta = 180^\circ.$$

Projecting the lines PARBQ in the direction PQ, and also perpendicular to PQ, we have

$$\cos \alpha + \cos \beta + \cos \gamma + \cos \delta = 2, \quad \sin \alpha + \sin \gamma = \sin \beta + \sin \delta.$$

[The rest in Volume.]



9637. (R. TUCKER, M.A.)—AD, BE, CF are the altitudes of the triangle ABC; $k_1, k_1'; k_2, k_2'; k_3, k_3'$ are the S. points of the triangles EAB, FCA; FBC, DAB; DCA, EBC respectively; prove that

$$k_3'k_1 = k_1'k_2 = k_2'k_3 = R \sin A \sin B \sin C.$$

$\rho_1, \rho_1'; \rho_2, \rho_2'; \rho_3, \rho_3'$ are the Brocard radii of the above triangles; prove that

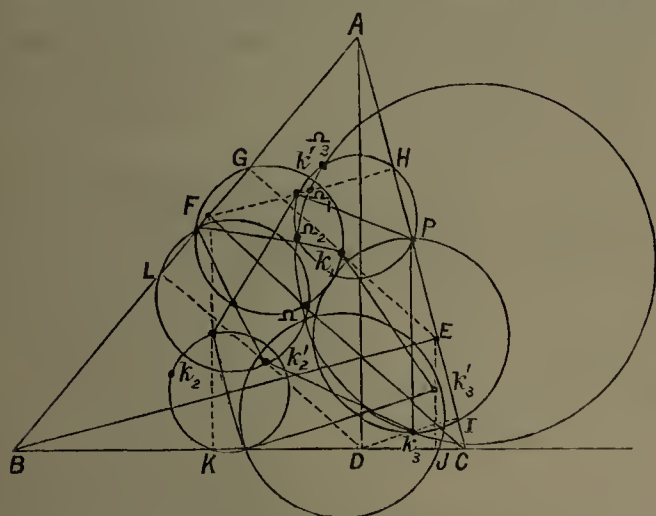
$$(1) \rho_1\rho_2\rho_3 = \rho_1'\rho_2'\rho_3';$$

$$(2) (\rho_2'^2 - \rho_3'^2)/a^2 + (\rho_3'^2 - \rho_1'^2)/b^2 + (\rho_1'^2 - \rho_2'^2)/c^2 = \frac{3}{a^2} \left(\frac{?}{?}\right);$$

(3) the sets of four Brocard-points for the above pairs of triangles are concyclic (on three circles); (4) the tangent from any one of the right angles of the above triangles to the Brocard circle of the triangle is a mean proportional between the tangents to the same circle from the remaining (two) angles.

Solution by Professors ZERR, BHATTACHARYA; and others.

The S. point of each triangle is found by drawing from its right angle a



line perpendicular to its opposite side, and taking its mid-point. We have

$$BG \cdot JE + BJ \cdot GE = GJ \cdot BE, \quad JE \sin A + GE \sin C = GJ,$$

$$\sin A \sin C (a \cos C + c \cos A) = GJ,$$

$$b \sin A \sin C = GJ, \quad c \sin A \sin B = KH, \quad a \sin B \sin C = LI;$$

$$\therefore GJ = KH = LI = 2R \sin A \sin B \sin C;$$

$$\therefore k_3'k_1 = \frac{1}{2}GJ = k_1'k_2 = \frac{1}{2}HK = k_2'k_3 = \frac{1}{2}LI = R \sin A \sin B \sin C.$$

[The rest in Volume.]

11631. (The Editor.)—Find the equation to the curve traced out in the same manner as the Cissoid of DIOCLES, when a parabola and its latus rectum are substituted in place of the generating circle and its diameter.

Solution by H. J. WOODALL, A.R.C.S.; Professor ZERR; and others.

(1) When the ordinates are equidistant from the latus rectum.

Let $y^2 = 4ax$ be equation to parabola (P). Ordinate $x = k$ meets P at

$$y = \pm 2(ak)^{\frac{1}{2}}.$$

Lines through (0, 0) to this point

$$[k, \pm 2(ak)^{\frac{1}{2}}]$$

are $4ax^2 = y^2k$; these meet $x = 2a - k$ (equidistant with $x = k$ from latus rectum) and give the locus $4ax^2 = y^2(2a - x)$, a cubic.

[The rest in Volume.]

11194. (R. CHARTRES.)—Give a simple proof, without infinitesimal changes, that, when four straight lines are given, the area enclosed will be a maximum when the figure is concyclic.

Solution by R. F. DAVIS, M.A.

Let ABCD be a convex quadrilateral, whose known sides AB, BC, CD, DA, are denoted by a, b, c, d , respectively. Let fall perpendiculars BM, DN on AC, then

$$a^2 - b^2 = AM^2 - CM^2$$

$$= AC(2AM - AC), \text{ \&c. ;}$$

$$\therefore MN \cdot AC$$

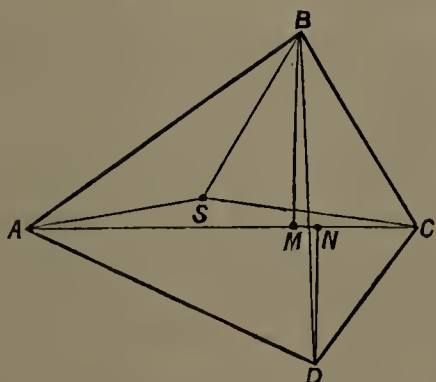
$$= \frac{1}{2} \{ (a^2 + c^2) - (b^2 + d^2) \}$$

$$= \text{constant.}$$

$$\text{But } AC^2(BM + DN)^2 + AC^2 \cdot MN^2$$

$$= AC^2 \cdot BD^2.$$

Hence, area of quadrilateral is greatest when AC . BD is greatest.



[The rest in Volume.]

11889. (Professor CLIFFORD, F.R.S.)—A tangent to an ellipse is a chord of a concentric circle, whose radius is equal to the distance between the ends of the axes of the ellipse; show that the straight lines which join the ends of the chord to the centre are conjugate diameters.

Solution by R. CHARTRES; Rev. J. J. MILNE, M.A.; and others.

The equation to the tangent QR is

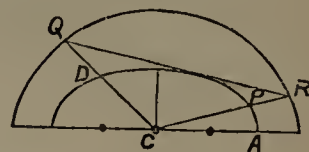
$$y = mx + (a^2m^2 + b^2)^{\frac{1}{2}}.$$

Making this homogeneous by

$$x^2 + y^2 = a^2 + b^2,$$

we get the equation to CR and CQ, and the

product of the two values of $\left(\frac{y}{x}\right) = -\frac{b^2}{a^2}$, the condition for conjugate diameters. [Rest in Vol.]



11760. (Professor MUKHOPADHYAY, M.A.)—Prove that the mean value of the area of all (1) the acute-angled triangles inscribed in a given circle of radius a is $3a^2/\pi$, and of all (2) the obtuse-angled triangles is a^2/π .

Solution by H. W. CURJEL, B.A.;

Prof. ZERR, M.A.; and others.

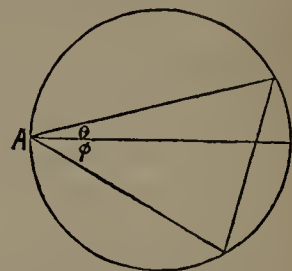
Let θ and ϕ be the angles which the two sides of the triangle through A make with the diameter through A.

(1) Then mean value

$$= 2a^2 \int_0^{\frac{1}{2}\pi} \int_0^{\frac{1}{2}\pi - \theta} \frac{\cos \theta \cos \phi \sin(\theta + \phi)}{\int_0^{\frac{1}{2}\pi} \int_0^{\frac{1}{2}\pi - \theta} d\theta d\phi} d\theta d\phi$$

$$= \frac{16a^2}{\pi^2} \int_0^{\frac{1}{2}\pi} \left\{ \cos \theta \sin \theta \left(\frac{\pi}{4} - \frac{\theta}{2} + \frac{\sin \theta \cos \theta}{2} \right) + \frac{1}{2} \cos^4 \theta \right\} d\theta = \frac{3a^2}{\pi}.$$

[The rest in Volume.]



11667. (Ven. Archdeacon WILSON, M.A.)—When $4n + 1$ is a prime number, it is an old property of numbers that it is expressible in the form of the sum of two squares. But the proofs throw little or no light on the "reason why." Can any connexion be shown, or any explanation given, of this curious property?

Solution by ROBERT RAWSON.

Every number is represented by $(2n)$ or $(2p - 1)$, (n) and (p) being integers. If, therefore, a prime number is expressed by the sum of two squares, one must be even and the other odd. Hence

$$(2n)^2 + (2p - 1)^2 = 4(n^2 + p^2 - p) + 1 = 4m + 1, \text{ if } m = n^2 + p^2 - p \dots (1, 2).$$

(1) shows that $(4m + 1)$ is the sum of two squares when (2) is satisfied, whether $(4m + 1)$ is a prime number or otherwise. [The rest in Vol.]

11503. (W. J. GREENSTREET, M.A.)—In a right-angled triangle ABC, draw BL perpendicular to the hypotenuse AC, lm perpendicular to AB, mn perpendicular to AC, np perpendicular to AB, and so on. Find (1) the sum of these perpendiculars in terms of the sides of the triangle. From a point P in AC, a perpendicular PQ is let fall on AB; if $PQ^2 = AP \cdot PC$, (2) find P. Draw BD and CE perpendicular to the bisector AZ of the angle A; show that (3) the middle point of BC, B, D, E are concyclic, and (4) the area of the triangle BDE is equal to BD . AE.

Solution by Professors KRISHNAMARCHAM, AIYAR, and others.

$$1. \text{ We have } BL = c \sin A = \frac{ac}{b}, \quad Lm = BL \cos A = \frac{ac^2}{b^2},$$

$$mn = Lm \cos A = \frac{ac^3}{b^3}, \text{ and so on ;}$$

hence the sum required

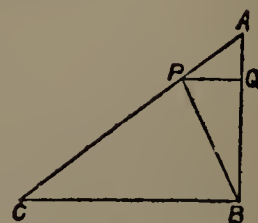
$$= \frac{ac}{b} \left(1 + \frac{c}{b} + \frac{c^2}{b^2} + \dots \text{ to } \infty \right) = \frac{ac}{b - c} = \frac{ac(b + c)}{b^2 - c^2} = \frac{c}{a} (b + c).$$

$$2. \text{ We have } PQ = a \frac{AP}{AC};$$

$$\text{therefore } AP \cdot PC = a^2 \frac{AP^2}{AC^2},$$

$$\text{or } \frac{AP}{PC} = \frac{b^2}{a^2};$$

$$\text{therefore } AP = \frac{b^2}{a^2 + b^2} \cdot AC = \frac{b^3}{a^2 + b^2}.$$



[Rest in Vol.]

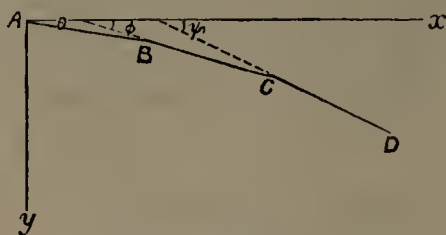
11223. (Professor MUKHOPADHYAY.)—AB, BC, CD are three equal uniform rods freely jointed together and movable about the extremity A; the rods fall from a horizontal position of rest; prove that (1) the radius of curvature of the initial path of the extremity D of the further rod is $\frac{8}{3}a$, where a is the length of each rod; and (2) the initial stresses at C, B are in the ratio of 1 : 4 : 15.

Solution by H. W. CURJEL, B.A.

Take the axes of x and y horizontal and vertically downwards through A.

Let θ, ϕ, ψ be the inclinations of the rods to the horizon, and $x_1, y_1; x_2, y_2; x_3, y_3$ the coordinates of their centres of gravity, and x, y those of D.

Let X_1Y_1, X_2Y_2, X_3Y_3 be the components of the reactions at A, B, C.



[The rest in Volume.]

11710. (W. J. JOHNSTONE.)—If $y = \lambda x$ is an axis of

$$ax^2 + 2hxy + by^2 + c' = 0,$$

prove that (1) its length is $2[-c'/(a+h\lambda)]^{\frac{1}{2}}$; (2) the equation referred to its axes is $x^2(a+h\lambda) + y^2(a+h\lambda') + c' = 0$.

Solution by C. MORGAN, M.A.; H. W. CURJEL, B.A.; and others.

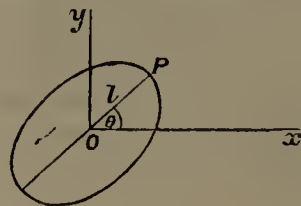
$$x^2 = \frac{-c'}{a + 2h\lambda + b\lambda^2}$$

gives the point P, where $y = \lambda x$ cuts the curve.

$$l^2 = x^2 \sec^2 \theta = -\frac{c'}{a + 2h\lambda + b\lambda^2} (1 + \lambda^2) \dots (1)$$

l must be a maximum or minimum.

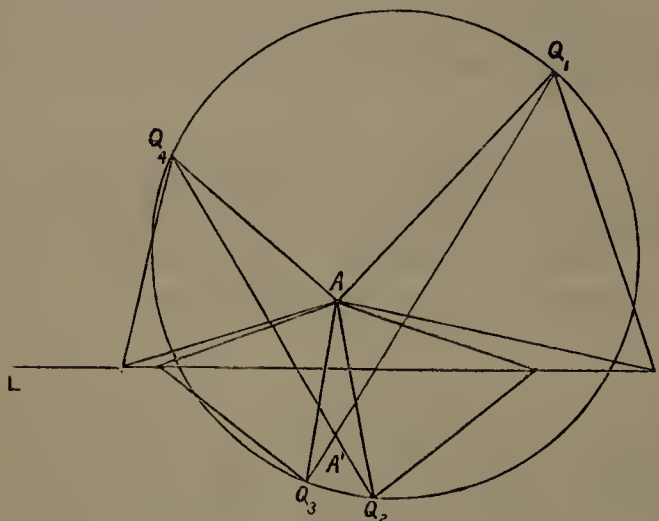
[The rest in Volume.]



11882. (A. KAHN, M.A.)—Describe an equilateral triangle, such that one vertex coincides with a given point, and the other two vertices are on a given straight line and a given circle respectively.

Solution by W. J. DOBBS, B.A.; Professor SHIELDS; and others.

The following construction, giving four solutions, follows from the subjoined analysis:—



Draw two straight lines through A', making 60° with the given straight line. Let these meet the given circle in the points Q_1, Q_2, Q_3, Q_4 . Then AQ_1, AQ_2, AQ_3, AQ_4 are each sides of the required triangles.

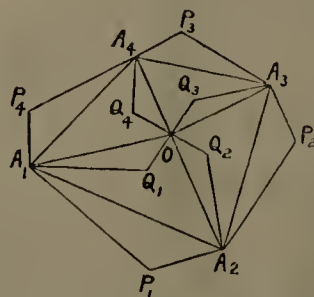
[The rest in Volume.]

11717. (Professor RAMASWAMI Aiyar.)—If similar triangles be described on the sides of a polygon in order, prove that the centre of gravity of equal particles placed at their vertices will coincide with that of equal particles placed at the vertices of the polygon.

Solution by the PROPOSER.

Let A_1, A_2, A_3, A_4 be the polygon; P_1, P_2, P_3, P_4 the vertices of the triangles. Take any point O within the polygon; join $A_1O \dots A_4O$, and on them describe triangles similar to those described on the sides.

Now, suppose equal particles placed at $A_1 \dots A_4$, and one such particle at Q_1 . Since $P_1Q_1Q_2A_2$ is a square, the particles at Q_1, A_2 may be transferred to P_1, Q_2 without affecting the C.G. of the system; and, since $P_2Q_2Q_3A_3$ is a square, the particles at Q_2, A_3 may be transferred to P_2, Q_3 ; similarly, the particles Q_3, A_4 to P_3, Q_4 ; and lastly Q_4, A_1 to P_4, Q_1 . [Rest in Vol.]



11634. (I. ARNOLD.)—ABCD is a rigid body in the form of a square, whose base AB is 10 inches. Four forces, proportional to 4, 5, 6, and 8, act in the plane of the square at the angular points A, B, C, D, making with the direction AB the angles $30^\circ, 45^\circ, 60^\circ$, and 150° respectively; required the magnitude, direction, and point of application of a force which, acting on AB, shall keep the square in equilibrium.

Solution by H. J. WOODALL, A.R.C.S.

Resolve the forces into X, Y, parallel to AB, BC; then we have

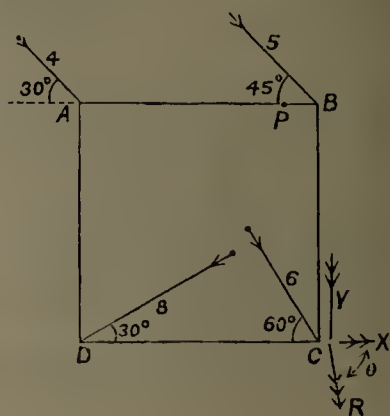
$$\begin{aligned} X &= 4 \times \frac{1}{2} \times \sqrt{3} + 5 \times \frac{1}{2} \times \sqrt{2} \\ &\quad + 6 \times \frac{1}{2} - 8 \times \frac{1}{2} \times \sqrt{3} \\ &= -2\sqrt{3} + 2\frac{1}{2}\sqrt{2} + 3 \\ &= 3.0714324. \end{aligned}$$

$$\begin{aligned} Y &= 4 \times \frac{1}{2} + 5 \times \frac{1}{2} \times \sqrt{2} \\ &\quad + 6 \times \frac{1}{2} \times \sqrt{3} + 8 \times \frac{1}{2} \\ &= 6 + 2\frac{1}{2}\sqrt{2} + 3\sqrt{3} \\ &= 14.7316864. \end{aligned}$$

$$R = (X^2 + Y^2)^{\frac{1}{2}} = 15.0484;$$

$$\theta = \tan^{-1}(Y/X) = \tan^{-1}4.796357 = 78^\circ 13\frac{1}{2}'.$$

To find point of application in AB. Take $AP = x$; find moments about P. We get $x(8 + 2\frac{1}{2}\sqrt{2} + 3\sqrt{3}) = 10(2\frac{1}{2}\sqrt{2} + 7\sqrt{3} - 3)$; $\therefore x \times 14.61037 = 126.59890$; $\therefore x = 8.665$.



11804. (R. KNOWLES, B.A.)—In Quest. 11727, if the circle FMN, of centre O, meet the axis again in K, prove that (1) OK bisects MN, (2) the locus of O is a semi-cubical parabola.

Solution by A. ST. CLAIR; H. W. CURJEL, B.A.; and others.

(1) In 11727 it is shown that

$$FM_1 = FN_1;$$

$\therefore$ arc FM_1 = arc FN_1 = arc NK ;

but arc FM_1 = arc MK ;

$$\therefore \text{arc } MK = \text{arc } NK;$$

$\therefore$ OK bisects MN.

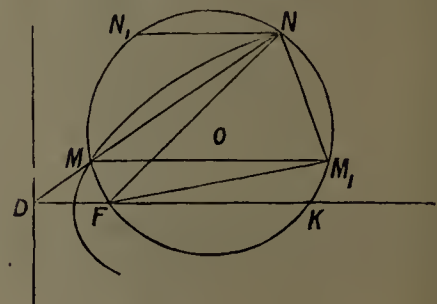
(2) Let equations to the parabola and DMN be

$$y^2 = 4a(x-a) \text{ and } y = mx.$$

Equation to OK is

$$m(y - 2a/m) + x - 2a/m^2 = 0; \therefore DK = 2a + 2a/m^2;$$

$\therefore$ O is given by $x = 2a + a/m^2$, $m(y - 2a/m) + x - 2a/m^2 = 0$, or $y = a/m^3$; $\therefore$ equation to locus of O is $(x - 2a)^3 = y^2a$, a semicubical parabola with cusp at focus of the parabola.



QUESTIONS FOR SOLUTION.

11956. (Professor SYLVESTER, F.R.S.)—If $x, y, z \dots$ are positive integers, such that $x + 2y + 3z + \dots = n$, where n is any given integer greater than 2, prove that the number of times that $1 - x + xy - xyz \dots$ exceeds zero is greater than the total number of times that it is equal to or less than zero.

11957. (Professor ZERR.)—A lends B. \$4000, with the understanding that B. pay him \$5000 in ten equal annual instalments of \$500 each, the first payable at end of first year. Show that the rate of interest is $4\frac{1}{2}$ per cent. nearly.

11958. (Professor H. L. ORCHARD, M.A., B.Sc.)—In a circle of unit radius is inscribed an equilateral triangle; in this triangle is inscribed a circle, and in this circle another equilateral triangle, and so on—equilateral triangles and circles being inscribed alternately one within another. Find the sum of the areas of all the circles.

11959. (Professor CAVALLIN, M.A.)—A point P is taken at random in the area of a vertical circle, and a horizontal chord AB is drawn through P; besides which two other random points Q and R are taken, R in the segment above and Q in the segment below AB. Show that (1) the probability is 1:3 that the time of descent of a particle down QP is less than that down the straight line of quickest descent from the circle to P; as also (2) of the contemporary occurrence that the time of descent for a particle down PR is less than that from P down the straight line of quickest descent to the circle; (3) the analogous probability for a sphere is 1:10.

11960. (Professor IGNACIO BEYENS.)—Soit un cercle de diamètre AB; si l'on mène un rayon quelconque OM et la droite MA', qui forme avec AB l'angle $MA'O = MOA'$, si l'on prend la distance $A'C = l$ (constante) sur $A'M$, on demande lequel sera le lieu des points C ainsi déterminés.

11961. (Professor NEUBERG.)—Etant donné un tétraèdre ABCD, trouver un point P tel que les plans menés par P parallèlement à une face coupent les trièdres opposés suivant des triangles équivalents. Chercher la surface de ces triangles.

11962. (Professor DE LONGCHAMPS.)—Un arc de parabole touche les côtés d'un angle droit yOx aux points AB. Construire le cercle inscrit au triangle formé par les côtés OA, OB, et l'axe AB.

11963. (Professor SHIELDS.)—An equilateral rhombus has six equal circles, the largest possible, inscribed in it, tangent to its sides and to each other, thus enclosing the sum of $38.986 +$ acres of land in the three

tri-cusps, A, A, and B in and near the centre; find (1) the diameter of one circle, and (2) the area of the centre tri-cuspid B.

11964. (Professor MORLEY.)—Let e_+ , e_- be the equiangular points of a triangle $a_1 a_2 a_3$. Let the three circles a_1 , e_+ , e_- be called the equiangular circles. Then (1) the three equiangular circles cut at angles $2\pi/3$. (2) The tangents to these circles at a_1 , a_2 , a_3 are parallel to the join of the centroid and orthocentre. (3) Let c_1 , c_2 , c_3 be the centres of the circles, and let the line of centres meet the sides of the fundamental triangle at b_1 , b_2 , b_3 (these points lying also on the tangents at a to Kiepert's hyperbola); then b is the Jacobian triangle of e , and the points c are the Hessian points of either, so that the lines from either e to b_1 , c_2 , b_3 , c_1 , b_2 , c_3 form a star. (4) Referring to Professor NEUBERG's Quest. 11377, and observing that the vertices of the triangle formed by the tangents to Kiepert's hyperbola lie on the lines $a_1 c_1$, $a_2 c_2$, $a_3 c_3$, prove that they divide these lines in the ratio $-3/1$.

11965. (Professor MAHENDRA NATH COONDOL.)—Construct an equilateral triangle equal to a given triangle.

11966. (Professor MACFARLANE.)—Prove that

$$\frac{\pi^2}{8} \left\{ 1 - 2y \frac{e^{1/y} - 1}{e^{1/y} + 1} \right\} = \frac{1}{1^2} \frac{1}{1 + (\pi y)^2} + \frac{1}{3^2} \frac{1}{1 + (3\pi y)^2} + \frac{1}{5^2} \frac{1}{1 + (5\pi y)^2} + \dots$$

11967. (Professor HUDSON, M.A.)—A closed cubical vessel, whose edges (each = a) are vertical and horizontal, is filled to a depth x with water; it is then turned through 45° about a horizontal edge. Find the ratio of the whole pressure upon the faces of the cube in the former case to that in the latter. If $x = \frac{1}{4}a$, show that the ratio is $9 : 6\sqrt{2} + 2$; and if $x = \frac{3}{4}a$, that it is $45 : 78\sqrt{2} - 70$.

11968. (Professor ROGEL.)—Find the values of the infinite products,

$$(1) \prod_{p=2}^{\infty} p^{(1/p) \sin 2p\mu\pi}, \quad \text{especially} \\ \frac{5^{\frac{1}{5}} \cdot 9^{\frac{1}{9}} \cdot 13^{\frac{1}{13}} \dots (4n+1)^{\frac{1}{(4n+1)}}}{3^{\frac{1}{3}} \cdot 7^{\frac{1}{7}} \cdot 11^{\frac{1}{11}} \cdot 15^{\frac{1}{15}} \dots (4n+3)^{\frac{1}{(4n+3)}}}, \quad \frac{4^{\frac{1}{4}} \cdot 7^{\frac{1}{7}} \cdot 10^{\frac{1}{10}} \dots (3n+1)^{\frac{1}{(3n+1)}}}{2^{\frac{1}{2}} \cdot 5^{\frac{1}{5}} \cdot 8^{\frac{1}{8}} \cdot 11^{\frac{1}{11}} \dots (3n+2)^{\frac{1}{(3n+2)}}}; \\ (2) \prod_{p=3}^{\infty} p^{1/[(1-p)^{p-1}p-1]}; \quad (3) \prod_{p \equiv 1 \pmod{4}} p^{p/(p^2-1)} \cdot \prod_{p \equiv 3 \pmod{4}} p^{-1/(p^2-1)}.$$

11969. (Professor MANNHEIM.)—On donne un triangle ABC rectangle en B. On joint les points B et C à un point quelconque M du plan du triangle. De A, on abaisse la perpendiculaire AP sur BM; en C, on élève la perpendiculaire CO à CM. Ces droites se coupent en O et l'on projette ce point orthogonalement en R sur BC. La perpendiculaire MQ sur AC coupe BC au point isotomique de R.

11970. (Professor BARISIEN.)—Si l'on considère une strophoïde dont le noeud est le point O, deux transversales parallèles et symétriques par rapport au point O coupent cette courbe respectivement en des points A, B, C; A', B', C', tels que OA · OB · OC = OA' · OB' · OC'.

11971. (Professor BESO.)—Eliminer x , y , z entre les équations $yz(1-2x) = \alpha^2(1-x)^2$, $zx(1-2y) = \beta^2(1-y)^2$, $xy(1-2z) = \gamma^2(1-z)^2$, $x+y+z=1$.

11972. (Professor BERNÈS.)—De part et d'autre du point A, commun à deux circonférences O, O', on porte sur le rayon AO, de l'une, deux longueurs égales AL, AM; et, des points L et M comme centres, avec LA, MA pour rayons, on trace deux circonférences qui coupent la circonférence O en B' et C'. Si B et C sont les points où AB', AC' rencontrent la circonférence O, et que AD soit une corde de O, tangente à O', et AD' une corde de O', tangente à O, démontrer que chacun des quadrilatères ABCD, AB'C'D' est harmonique.

11973. (Professor VUIBERT.)—La surface de l'octogone formé par les huit droites qui joignent les sommets d'un parallélogramme aux milieux des côtés opposés est équivalente au sixième de l'aire du parallélogramme.

11974. (Professor DÉPREZ.)—On donne un quadrilatère ABCD. Par A, B on fait passer une circonférence quelconque O; par C, D une circonférence I coupant orthogonalement la précédente. Trouver (1) l'enveloppe de la ligne des centres des deux cercles; (2) celle de leur axe radical; (3) le lieu de l'intersection des deux circonférences; (4) le lieu du pied de l'axe radical; (5) le lieu du point de rencontre des tangentes menées en A et C respectivement aux deux cercles O et I.

11975. (EDITOR.)—Find two numbers such that both their sum and difference shall be a square; also the sum of their squares shall be a cube, and the sum of their cubes a square.

11976. (D. BIDDLE.)—Given three equal straight lines, lying in any position (within the limits of a circle whose radius is equal to one of them), and about the three straight lines as radii three circles drawn; find, on each of the three circumferences, a single point as centre of two circles, to be drawn respectively through the two extremities of the corresponding straight line, so that the two sets of circles drawn through the similar extremities shall each have a common point of intersection.

11977. (R. TUCKER, M.A.)—Find (1) the locus of points P, Q, so related that the normals therefrom to a parabola are mutually at right angles; and hence (2) derive a property of orthogonal tangents to a semi-cubical parabola.

11978. (Rev. T. C. SIMMONS, M.A.)—A line is divided at two random points; prove the chance that no part exceeds n times any other part ($n > 1$) = $\{(n-1)(4n^3 + 12n^2 + 6n + 2)\} / \{(n+2)^2(2n+1)^2\}$.

11979. (H. J. WOODALL, A.R.C.S.)—Show how to inscribe a square in a given quadrilateral.

11980. (W. J. DOBBS, B.A.)—Two circles (radii r_1 , r_2) intersect at A and B, and AC, BD are chords of circle I, which touch circle II. Show that, in order that CD may intersect circle II, in real points (E, F) it is necessary that the distance between the centres of the circles should not be greater than $(r_1^2 + r_2^2)^{\frac{1}{2}} - r_2$. Hence show that the angle (exterior to AB) at which the circles intersect must not be greater than 30° , and that r_1 must not be less than $\frac{3}{4}r_2$. Prove also that the points E, F lie on a circle of radius r_3 concentric with I, where $r_3^2 + k^2 = r_1^2$, k being the length of either of the chords AC, BD.

11981. (JOHN GRIFFITHS, M.A.)—Let U, U' denote respectively the inverses of the positive and negative Brocard points of a triangle ABC with respect to the circumcircle ABC. Also, let d' , e' , f' be points taken on the lines BC, CA, AB so that $d'e'f'$ is an escribed triangle, inversely similar to ABC, whose centre of similitude is U'. If parallels to BC, CA, AB be drawn through f' , d' , e' to intersect CA, AB, BC in e , f , d , prove that def is an escribed triangle which is also inversely similar to ABC, and has U for its centre of similitude. [For an account of the escribed triangles corresponding to U, U'—which I have named Secondary Tucker triangles—see *Proc. Lond. Math. Soc.*, Vol. XXIV.]

11982. (J. H. GRACE. Suggested by Quest. 10879.)—If a conic be inscribed in a triangle, the rectangle contained by the distances of its foci from the circumcentre is equal to that contained by the distance between the centre of the conic and the nine-points centre of the triangle, and the diameter of the circumcircle of the triangle.

11983. (W. J. GREENSTREET, M.A.)—Find the locus of the centres of conics (1) passing through a fixed point, touching a given straight line in a given point, and having $a^2 + b^2 = k^2$; (2) of constant area, passing through two fixed points and touching a fixed straight line; (3) of constant area, passing through a fixed point and touching Ox, Oy; (4) of constant area, passing through two fixed points and touching two given straight lines.

11984. (H. FORTEY.)—If $\{x/\log(1+x)\}^n = 1 + a_1x + a_2x^2 + a_3x^3 + \dots$, prove that $a_{2r+1} = 0$, when $n = 2r$ or $2r+1$.

11985. (M. D. GOPALACHARI.)—A, B, C are three points not in the same straight line. Find a fourth point O, such that the sum of AO, BO, CO is a minimum.

11986. (K. RANGASAWMI IYENGUR.)—Given the altitude, the bisector of the vertical angle, and the median of a triangle, construct it.

11987. (Rev. Dr. KOLBE.)—Find a short method analogous to that of Question 11868 which shall apply to fractions whose denominator ends in 1.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a separate paper (otherwise, when used for printing, the Editor has the labour of entirely re-writing such articles); (b) to make their Solutions as short as possible; (c) to send all Questions early in the month, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to prepay the postage in full; and (f) to send all communications to

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LONDON MATHEMATICAL SOCIETY.

Thursday, May 11th, 1893.—Mr. A. B. Kempe, F.R.S., President, in the chair. Señor M. Tamborrel, of Mexico, was elected a member, and Mr. A. L. Dixon was admitted into the Society.

The following communications were made:—

"On the Collapse of Boiler Flues," Mr. A. E. H. Love, M.A.

"On some Formulæ of Codazzi and Weingarten in relation to the application of Surfaces to each other," Professor Cayley, F.R.S.

"On the Expansion of certain Infinite Products," Professor L. J. Rogers, M.A.

"A Theorem for Bicircular Quartic Curves and for Cyclides, analogous to Ivory's Theorem for Conics and Conicoids," Mr. A. L. Dixon, B.A.

"On the Linear Transformations between Two Quadrics," Dr. H. Taber.

"On Maps and the Problem of the Four Colours," Prince C. de Polignac.

"Supplementary Note on Complex Primes formed with the Fifth Roots of Unity," Professor Lloyd Tanner, M.A.

"On Fermat's Proof that Primes of the form $4n+1$ can be broken up into the Sum of Two Squares," Mr. S. Roberts, F.R.S.

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The Educational Times.

COLLEGE OF PRECEPTORS.

EVENING MEETING, JUNE 21ST, 1893.

The Chair having been taken by the Rev. Canon DANIEL, M.A., HOWARD SWAN, Esq., read the following paper on

GOUIN'S "SERIES METHOD" OF TEACHING LANGUAGES:
ITS PSYCHOLOGICAL BASIS AND ITS APPLICATION TO CLASS TEACHING.

It is barely a year and a month since M. Gouin's book on "The Art of Teaching and Studying Languages" was published in England; and already it has exerted an enormous influence in stirring to the roots the question of the best method of teaching languages in schools. It is, indeed, a significant sign of the times, with what rapidity a new idea in pedagogic science becomes spread and adopted, if it appeal to the principles for which the advocates of Pestalozzi and Froebel have been so valiantly fighting. M. Gouin has carried the principles attempted to be put in practice by Pestalozzi and Froebel to their logical conclusion in higher and secondary education, especially as regards languages. "Since nature gives us our first language," says Pestalozzi, "might she not give us ten others in the same way?" Pestalozzi failed to discover the right method, but what Pestalozzi, and others after him, have sought for and failed to find, François Gouin has discovered, and, having organized the discovery, has shown the way to apply it.

M. Gouin's book, it is curious to note, obtained a very varied reception on its publication in England. Almost ridiculed by some of the leading educational journals, it was hailed by others with great appreciation; and the number of teachers, both in Great Britain and in the United States, Canada, and Australia, —to say nothing of Japan, Turkey, Russia, Sweden, and other countries—who have interested themselves in the system and adopted it to the best of their ability in their teaching, is indicative of the greatest interest in the new system throughout the world. In England, more than one hundred and twenty language-teachers have already received training in the details of class practice upon the Series Method; and several large high schools and colleges have put the method into practice. The two well-known training colleges for ladies at Cambridge and at Cheltenham have been specially interested in the application of the method, and much general interest has been aroused after the publication of the very successful results of the examination of Mr. Stead's children which appeared last January in the *Review of Reviews*.

It may be allowable, before dealing with the system itself,

briefly to allude to this interesting episode in the progress of educational science. The attention of the editor of the *Review of Reviews*, Mr. W. T. Stead, was called—as was that of other editors of both daily and educational papers—to the promising outlook for the teaching of modern languages offered by M. Gouin's researches. More enterprising, more far-seeing than others—perhaps, also, more interested, because of the needs of his own children—Mr. Stead suggested that his family of four boys and one girl should be submitted to a trial to see if, after six months' teaching on the new method, the children should be thoroughly at home in French. The elder boys, aged eighteen, sixteen, and fourteen, had two hours a day (equal to an hour a day for a year). In the case of the youngest boy, aged eight, certainly the most interesting—as he knew no French to begin with—and the girl, aged eleven, only one hour a day for six months was given.

Long before the end of the experiment the boys could understand spoken French, and could also speak well, and in the case of the elder boys, could also read French authors, such as Dumas or Sardou, and the French newspapers, with perfect ease, and write letters and stories in French.

The examination, mostly oral, to which they were subjected after the six months' training, was carefully thought out by their teacher, M. Bétis, and the writer of this paper; and, as it may conceivably have an interest for those who have the progress of the science of education at heart, it may be allowable to reproduce it here. The following twenty-four tests were drawn up:—

1. To give in French the names of objects shown to them.
2. To describe in French the gestures which are made before them.
3. To repeat an old Series Lesson.
4. To repeat in French a story which they have just heard in French.
5. To recount personal facts which have occurred to them at any moment of their lives.
6. To read an article from a French newspaper, or a page from an ordinary novel, and repeat it in French.
7. To give, in French, the explanations necessary to make themselves understood, if they lack the proper word in French.
8. To ask, in French, sufficient explanation to understand the meaning of a French word which they do not recognise.
9. To consult a dictionary in French when they meet with any French word which they do not understand.
10. To repeat immediately, in French, a fact recounted in English by one of the persons present, or taken from an English newspaper or book.
11. To recount, in French, what they would do in France, under any given circumstance.
12. To explain and recount, in French, a series of pictures without titles.
13. To improvise immediately, in French, the end of a story of which they had been told the beginning.
14. To sum up this story in a few words.
15. To recount, in French, the same story twice over, in different terms.
16. To calculate in French.
17. To explain, in French, what are the mental pictures which spring up in their minds when hearing a word or a phrase.
18. To explain, in French, the reason of the forms of the conjugations employed by a French author, in any extract (newspaper or book).
19. To act as interpreter.
20. To repeat, in French, a conversation previously held by persons present at the examination.
21. To understand completely a lesson in science or literature given in French.
22. Themselves to teach a French Series to others.
23. To explain a grammatical table.
24. To write an ordinary letter in French, not technical.

Although, from considerations of time, it was necessary to leave out a few of these tests, the result of this examination, held on December 19th, was extremely satisfactory, as testified by several well-known educational authorities, whose names were appended to the report, viz., Dr. Pryde, late principal of the Merchant Maidens' School, Edinburgh, Monsieur A. C. Poiré, professor at Huddersfield College, Mrs. Garrigues, of Washington, U.S., and Madame de Leeuw, of Wimbledon Kindergarten. Mr. Francis Storr was also present, and, though not entirely convinced of the efficacy of the method for secondary schools, confessed the performance, especially of the younger boy (who knew no French previously), was extraordinary. The three elder boys have now gone on a three months' bicycle tour in France, and have no difficulty whatever in making their way entirely alone in France, and enjoying communications with educated French people.

The Series Method is now in successful operation, amongst

other places, at the Girls' High School, Bedford Park, under Miss Pryde, headmistress, and at Trent College, near Nottingham, under M. Bétis; other schools, where the system is in practice, could be cited, if this would serve any useful purpose. In France, M. Gouin has been appointed director of a School of Living Languages by the Conseil Municipal of Paris.

So much for what has been achieved. What is the basis of the method that produces these extraordinarily successful results? How is the method carried out in practice in class teaching? These are the questions to which the teachers present will desire to address themselves. So often have methods of teaching French been brought forward, that a natural amount of scepticism is, at first, allowable. The facts achieved, however, speak for themselves, and cannot be argued away.

The book of M. Gouin enters, in considerable detail, more particularly into the theory of the whole art of teaching languages, than into the actual practice, in its details, of the method in class. The exact way in which the method can be adopted in ordinary classes of twenty-five or thirty pupils is that which is now most interesting to teachers.

Before giving an actual demonstration of the method of teaching, it will be well briefly to consider the principles underlying the whole system. In reality, the success of the Series Method depends upon the utilization of six forces of the human mind, hitherto but partially or not at all occupied, viz.: (1) the power of mental visualization, (2) the power of the ear to remember sounds, (3) the power of the verb in the sentence, (4) the power of memory and of definition in advance, by the use of the chronological order, (5) the logical inclusion of ordinary expressions by utilizing the ordinary events of life as material of the lessons, and eliminating at first those unknown to a boy in his own language, and (6) the utilization of the life of teacher and pupil in the class. It is only when these six forces are fully harnessed to the pedagogic wagon that the astonishing progress claimed is made.

I propose but briefly to deal with each of these points, which really need a course of lectures in a training class to fully develop. Principally, it is desired to call attention to that on which the whole system rests—the power of mental visualization—a power, strangely enough, almost overlooked until the present, but one which is the key to many treasures. I will endeavour to show that every part of speech may be visualized as a scene—not as a word only, but as a mental picture—noun, verb, preposition, &c.—and equally so, an entire phrase and the various conjugations.

The great error of pedagogic science hitherto has been in leaving the imagination of the child undeveloped, or, at least, untrained, to be exercised or not, at random. A scholar may, in learning any lesson, do one of two things: he may imagine the pages of his book—dates, words, tables—or he may imagine the facts that these symbols stand for, about which the book is speaking. Which is he doing at your lesson? Often the teacher does not know; and indeed, very often, it is not thought necessary to inquire.

In truth, the professional science has been often widely astray, and much laborious work of both pupil and master has been carried out in entirely wrong directions. This error does not exist alone for language teaching, but for nearly all subjects, though the teaching of physical sciences, which are necessarily based on experimental observation, suffers least in this respect. The means hitherto taken for learning a language has been to associate a written or printed word in one language with the written or printed word in another. Now, in reality, all words at first are very much alike to the eye—black marks on white paper. At six feet distance the eye cannot well distinguish the word "horse" from "house," while at one hundred yards every person not blind can well distinguish between the realities these words stand for and express. In learning a new language, the association of printed word to printed word has hitherto been taken; instead of this, there should have been taken the association of mental picture to foreign sound.

The fact is, we have not hitherto properly comprehended those important words "think" and "understand," except vaguely and unconsciously. What is meant by "understanding" a language? When any simple statement is spoken or read aloud in the mother tongue the recital is at once understood by a second person. For instance, take the following: "The angler places his fishing-tackle near the edge of the bank, puts his rod carefully together, baits his hook, casts his line, and waits patiently for a bite, enjoying the calm scene and the lovely summer weather."

Of course everyone understands this. But why? You may

say, because you understand the words. But what do you mean by "understand" the words? Let us delve into our own minds and see for ourselves what is meant by understanding. Listen! "The angler": when you hear the sound there springs to your mind, not so much the letters, a, n, g, l, e, r, as the mental picture of a man who is going fishing—you can see his old hat, easy clothes, his rod in his hand, probably his rubber gaiters, and you can certainly also see a wicker-basket for his catch. Now, "the edge of the bank": on hearing these sounds you can see a scene in your mind—you can see the stream, with grass and rushes—

"The long curved ledge of river's edge,
The ripple of the waters."

Now look at the edge of the bank—"he places his tackle near the edge of the bank." You can see, I think, exactly where "near" is. Now "places"—you can see the angler bend down, setting his tackle—rod, basket, net, &c., on the ground. You can see his action—"baits the hook": you see the hook and worm or fly. Now, "casts his line": you see this characteristic action.

So much for objective images, which you may say you grant can be seen. How about subjective or abstract words? Well, our angler "waits patiently, enjoying the calm scene and the lovely summer weather." When you hear "patiently," you can see perfectly well the man's attitude, you can realize his state of mind—time to him is no object—it is the very essence of a fisherman to be patient. "Enjoy": can you see content written on his face as he gazes round? Cast your minds back to the time when you also sat by the river's edge in the warm fresh air with nothing to do but "enjoy"; you look around at the calm scene and drink delight—you enjoy—and our angler "enjoys."

All this, consciously or unconsciously, springs unbidden as in a photograph to your mind when the words are uttered in your hearing; and the picture is, or may be, more vivid and living than any photograph. And every word of the phrase can be thus realized. Is this fact useful to a teacher or not? We shall see; but I think that everyone will be struck by the fact when once their attention is called to it attentively.

When hearing an unknown foreign tongue this phenomenon does not occur, with the result: you do not "understand." The question before the teacher should be therefore: how to make it occur.

Let us first investigate in the same way the word "think." It is evident that the speaker of such a sentence as that just read must first "think" before he utters it, or before the listener can "understand." Here it is the speaker who forms mental pictures before the sounds; and he chooses intuitively the words to express them. No sooner do I think, i.e. visualize, than the words spring forth. For instance, I imagine my angler ready, hook baited with the line between thumb and finger; and now, gently, watch him, he—"casts his line." And thus, for any scene, words come to you to express this scene. It is not so much when actually seeing an occurrence that we use the words, but when imagining them. On the occasion of a 'bus accident, for instance, we do not *then* describe it; but, repassing in our minds the event afterwards, we see the failure of the axle, the 'bus slowly overturned, we hear the crash, the shrieks of the passengers, and see the blood from their wounds, &c.

We see plainly from this, in spite of all contradiction from wavering psychologists, that in our own tongue at least, and for ordinary language, we "think" in pictures, we "understand" in pictures, and the words we use spring intuitively to our lips. What is the connexion in the mind between the mental picture and the sound. There is none but "association"—fact and sound in early days occur together, and afterwards, in thinking, mental image and sound occur together, and the two become associated indissolubly.

What we have to do in teaching a foreign language is to produce, artificially and consciously, a similar association to that produced naturally and unconsciously in the mother-tongue. We have to do this for a word, for an entire phrase, for many phrases, for the whole basic language—meaning by this the whole of that language which is known and employed by a child of ten in the language that is being studied. How are we to do this, and how quickly can we do it? These are the practical questions for the teacher. For when the whole basic language is known, the higher philological and literary questions can be discussed, as is the case in the country itself, in the language which is being studied.

Look at the head of a student before you: you will see the

eyes in front, the ears at the two sides. Now, the perception by the eyes and the reception of the sound by the ears can evidently take place at one and the same time. These perceptions cross, so to speak, in the brain, and where they cross, a point of association is formed. When association is complete, it is sufficient for one of these perceptions to recur for the other to spring up in its train. Give the word and the picture appears; give the picture and the sound is heard mentally. The effect may be likened to what happens in signalling at a railway station—the signalman pulls his lever, and the signal immediately answers to the effort.

It is here we might discuss whether the actual perception of the object, or, lacking the object, its picture, would be useful or not to cause this association. Apparently at first it would seem well to have the actual perception of the object or picture, and many teachers use this method; but in reality it is not an advantage. The mind opposite a reality is receptive; it is passive and not active; it is acted upon, it is not acting. Now, what we require is that the thought—that is, the mental image—should be associated with the sound; and, when looking at an object or a picture, for most children, the impression of strangeness or interest must necessarily be largely lost, for any ordinary object—a windmill, a shepherd, a dog—these have been encountered so many times that the mind is not actively stirred by them. But in imagining the object or action, it is necessary for the mind to actively exert its power—the student is then “thinking”—and in this case the association of thought with sound is obtained, and we achieve the desideratum—that of thinking in the foreign language.

Next we come to the question, How quickly can this association be brought about? Careful experiment has been made; and it is found that six or seven repetitions aloud slowly when the image is called up, are sufficient to fix the association; ten or twelve repetitions render the association practically ineffaceable, and whole phrases can thus be quickly associated. (The experiment was here tried on the audience.) This takes but a few moments for a whole phrase. Experience shows that, after a little practice, and when the students are habituated to the work, an expert teacher can associate a whole lesson, twenty-five sentences, in a quarter-of-an-hour—that is at the rate of one hundred sentences per hour—complete idiomatic phrases, which are afterwards first read and then written out, and the grammar and other technicalities explained. This, at an hour a day for a scholastic year of two hundred and fifty days, will give command of twenty-five thousand idiomatic sentences, which is already a good stock, probably as many as most boys of ten know in their own language. Long before this stage is reached, the boys can speak and understand the ordinary language of life, and the whole lesson can, therefore, be carried on in the language studied.

This rate of progress—one hundred phrases per hour—cannot, of course, be obtained during the first lessons, when every word is strange and the exact requirements are hardly realized by the pupils. For the first few weeks, therefore, we might be content with 50 per cent. efficiency; this will rise to 60, 80, and eventually 100 per cent. of what is stated; and even in the later stages a still higher rate of speed might, if desired, be attained. In a specimen lesson, naturally, it is hardly desirable to go at this rate; nor is the mind of most persons—long habituated to look at the words of a foreign language—able to bend the attention to the meaning, *i.e.* the picture. But it is requested that you should exert an effort of will to leave the printed symbols—cause of so much weary labour and unsatisfied attention, to dwell upon the more interesting scenes which the words bring up. Those who possess the gift of language—a gift born with all and utilized by all in learning the mother tongue—are those who have found out for themselves this open secret of the nursery, and who see, when spoken to, not words but scenes. Above all, therefore, do not let the image become blurred to make way for words, accented and variously spelt—for to do so is to lose your gift for languages.

In order to render the effect of the demonstration more striking I shall give the first part in Spanish, which, I presume, is not known to many of the audience. This will serve to put you at once into the position of the student, a thing impossible to do in French or German for most teachers. This will also render the second part, which I will give in French, more interesting from the teacher's point of view.

I will ask you to imagine a shepherd's hut, and a little distance away a dog-kennel. The shepherd is going to unchain the dog: he goes to the kennel in which the dog is lying; the dog sees the

shepherd, gets up, comes out of the kennel and shakes itself; the shepherd stoops down and caresses the dog. The verbs of this scene are, in English, goes, is lying, sees, gets up, comes out, shakes itself; then, stoops down and caresses. I take these one at a time, and calling your attention with an art that requires some practising, I associate the verbs in Spanish, *va, está tendido, ve, se levanta, sale, se sacude, se baja, acaricia, está contento*. I build up with the same art and with the same distinctness of meaning the whole phrases:—

El pastor va á la perrera.
El perro está tendido en la perrera.
El perro ve al pastor.
El perro se levanta.
El perro sale de la perrera.
El perro se sacude.
El pastor se baja,
y acaricia el perro.
El perro está contento.

I repeat this, building up the phrases as before; and then without interruption, when you will find you will know the whole and be able to repeat it. When you repeat, I use the encouraging phrases:—Very good. Quite right. *¡Muy bien! ¡Perfectamente bien!*

We will now pass to the French. The English of the next part is: The shepherd takes hold of the chain, unfastens the chain, the chain falls to the ground; the dog jumps up round the shepherd and barks for joy. The verbs are: takes hold, unfastens, falls, jumps up, and barks. With the same special manner of associating the verb with the action, which is somewhat difficult properly to acquire so as not to distract but rather to attract the attention, I give the French verbs: *prend, défait, tombe, saute, aboie*. Then, on these, after sufficient repetition by the teacher and recitation by the pupil, I build up the phrases:—

Alors le berger prend la chaîne.
Il défait la chaîne.
La chaîne tombe à terre.
Le chien saute autour du berger,
et aboie de joie.

In repetition by the class, the teacher and the pupils, after explanation, use the interlocutory sentences as follows:—

T.—C'est bien! Vous parlez comme un français.
P.—Oh, monsieur! pas encore.
T.—Je vous assure que si.
P.—Je suis très content!
T.—Et moi aussi.

In this way the pupils have learnt ten complete idiomatic sentences—five of the objective language and five of the subjective language. These latter, being applicable to any situation, can be at once utilized by the pupils, and the teacher will be “très content” on hearing his pupils using the phrases at other times, in or after the class, spontaneously.

In this manner, from the first moment to the last, every effort of both teacher and pupil is utilized; and this economy of effort, this concreteness of teaching, serve to explain the enormous rapidity of progress and the complete grasp of the idiom that the pupil very soon acquires.

There is much more in the method than can be even hinted at in a short demonstration such as this; there is the explanation of the pronouns (and in German the declensions), to render these as concrete as the objective nouns themselves; the study of special idiomatic phrases; the abstract nouns; the metaphors; the lessons of reading and of writing; then the teaching of grammar, and the various means taken to assure the pupil a knowledge of the tense forms equal to that of a native child. The study of literature, again, is undertaken on the same principles, but carried to a higher degree of perfection, when dealing with the various masterpieces of classic authors. But it can be said that, under a teacher knowing the method well, the pupils rapidly gain a strength of memory perfectly surprising to those accustomed only to the system usually employed, until it is comparatively easy for a pupil, after even once reading, to repeat almost word for word half a page, whole pages, several pages, of an ordinary French novel or newspaper, to translate *viva voce* from or into French with an accuracy of corresponding renderings impossible to those who study words only by the ordinary methods.

Before concluding this paper, a short abstract will be interesting of how the verb tenses and the conjugations can be visualized and associated in a similar manner to the other word signs on this system. To illustrate this, we may take an

example in English. Suppose it is known that usually Mr. X. dines from 6 to 7 o'clock; we wish to state that yesterday several persons came in to see him about that time. Then we might say, the first came in before Mr. X. had dined (or before Mr. X. dined); the second, just as he was beginning to dine; the third, after he had begun to dine; the fourth, while he was dining; the fifth, after he had been dining some while; the sixth, just as he finished dining; and the last, after he had dined. Now, I would point out as a striking fact that, in English, from the conjugation alone we can tell with some accuracy both the time and the state of the dinner in this account. "Before he had dined," 5.45, the dinner is laid; "as he was beginning to dine," 6.5, soup; "after he had begun to dine," 6.10, fish; "while he was dining," 6.30, roast; "after he had been dining some time," 6.45, sweets; "as he finished dining," 7.0, coffee; "after he had dined," 7.15, cigars. This interesting example, which I chose to draw the attention of teachers to the possibility of vividly visualizing the conjugation, has some important lessons for the language-master. It indicates, more particularly, that the tense-forms can have a different grouping to that usually given, by taking a psychological basis for organization instead of a philological basis. The grouping of tense-forms round the imagined action—"before he dined," "while he was dining," and "after he had dined"—is a grouping which is easily understood at once by the ordinary scholars, for the reason it is the organization they use themselves unconsciously in their mother tongue.

In teaching the foreign tenses and their inner signification we start, then, from the original conception, and not from the known verbal form in English. The conception of "time-units" is first explained, as given in Gouin's book (chapter on "The Grammar"). The units in which acts can be placed by the imagination are, usually, the day, the week, the month, the year, the lifetime. Imagined in any unit of time which is present and unfinished (indefinite) such as "to-day," the verb (say "walk") takes the forms "now, he is walking"; in the past part of the indefinite periods: "he has walked"; in the coming portion, "he is going to walk." When the unit of time is complete, finished (definite), the phrase becomes: "yesterday, he walked"; and, for a coming or future unit: "to-morrow, he will walk." The forms are the same if any other unit of time—week, month, year, or lifetime—is chosen. To render the conception more striking, we represent these actions upon a clock-face; and charts showing the various forms, placed at the various times, will be issued for use in schools. The unit "the lifetime" is that chosen mostly by the French, who say "*il prend; hier, il a prit*" (see explanation in Gouin's book). It is further to be remarked that any action can be realized in the mind in three states: (a) simple and short; (b) lengthened and seen throughout its duration, or in an "imperfect" state; (c) as frequentative, or occurring habitually. These three conceptions take three separate organizations of conjugation on this system, notwithstanding that the forms are occasionally the same. The extreme clearness of conception, and facility in the choice of true conjugation, that this teaching gives, is a proof of the far greater ease of learning the tenses when grouped psychologically than when merely grouped in tables, under titles such as *passé indéfini*, *futur antérieur*, and so forth—abstract names always stumbling-blocks at first to child minds. It is to be noted, however, that eventually the students are taught these grammatical names for the purpose of examinations. Finally, every irregular verb, whenever met with, is given in its three principal forms—for instance, "*prend, a prit, prit*,"—and the pupils soon become as at home in these varied forms as in the regular conjugation, and are capable of answering the questions intelligently.

I trust enough has been indicated to show that the Series Method is indeed based on true psychological principles, that it is interesting alike for pupil to learn and master to teach, and that its application to class practice is both possible and highly desirable, as it forces the pupils to cultivate an active observation and a quick wit; and it enables them, within a few short months, to feel at home when spoken to by a foreigner, or when desiring to express their own thoughts. This training in spoken language goes side by side with the study of the written language and the grammar; and the result is a capability, on the part of pupils, very soon, of reading ordinary French with fluency and good accent, or of writing in idiomatic language, and with full comprehension of the grammatical difficulties. To have secured this result, and, at the same time, to have done away with much wearisome drudgery in the correction of badly-written exercises, is no small achievement in itself.

But farther, I am convinced, once the truth of the principles underlying the method are realized, we are here in presence of an advance in education of which we, at present, catch but the faintest glimpse. By the scientific use of the powers of the mind, carefully analysed, and with lessons adapted to the growing faculty of reason in the pupil, we may obtain a simplification of other branches of education than that of the teaching of languages. The gift for languages is here proved to be not a "gift," but a "method." The other "gifts" lie yet ungathered before us; and the promise held out by M. Gouin's work, for the future progress of the race, is not the least part of the fascination it holds over those who have investigated and adopted the system.

Mdlle. BOCHER thought that one great defect in M. Gouin's method, as illustrated by the lecturer, was that its success depended too much upon the intelligence and physical strength of the individual teacher. To be serviceable, a method of teaching should be capable of being employed by the ordinary teacher, and not merely by those who possessed exceptional skill and dramatic power. At the same time, she knew from her own experience that the principles underlying M. Gouin's method could be usefully applied by simpler methods.

Mr. BARLET observed that the principles on which the so-called Gouin method was based were as old as the hills, and were, in fact, made use of by every earnest teacher. The system had long been known in France under the name of "*Méthode Naturelle*." Such a method was found to be deficient in practical value when it was sought to use it as the sole means of teaching foreign languages to the large classes which were found in ordinary schools. But as a method of teaching foreign conversation to small classes, it would, undoubtedly, prove efficient, provided that the large amount of time mentioned by the lecturer could be devoted to this study. They must not forget, however, that so long as public examinations had to be passed, teachers of languages would have to do other work besides teaching conversation.

Mr. BROWN, while he recognised the assistance in the matter of vivid visualization that teachers might derive from the use of such illustrations and gestures as had been employed in the course of the lecture, could not help thinking that the lecturer had formed an exaggerated estimate of the claims of the Gouin method to originality, and also of its capacity as a vehicle of instruction in schools. M. Gouin had observed the great help that children obtained from the force of association when they were learning to speak their mother-tongue, and he had proceeded on the assumption that this means was itself sufficient for the purposes of school instruction in foreign languages. He agreed with the last speaker that most teachers worthy of the name had applied the principles employed by M. Gouin to the teaching of foreign languages, although few of them were aware of M. Gouin's existence. Certain Continental nations were practically bilingual, and their children thus enjoyed a great advantage over English children in learning a second language. He trusted, however, that the time was not far distant when every educated Englishman would be master of, at least, one language in addition to his own.

Miss CROMBIE stated that she herself had made use of the Gouin method in teaching young children in her Kindergarten, and had found it very helpful. She did not, however, consider it sufficient by itself as a preparation for passing examinations.

Mr. WILLIAMS said that he had found by experience that very satisfactory results could be obtained by discarding old methods, and using conversation as the sole means of teaching languages.

The CHAIRMAN considered that M. Gouin's method could not lay claim to originality, except in so far as it endeavoured to adapt itself more closely to the laws of psychology. The only really novel feature, viz., the substitution of the mental image of an object for the object itself, was, he thought, wrong in principle; indeed, it was a matter of some surprise to him that it should be seriously advocated by any thoughtful teacher. The concrete presentment of an object must always be more effective in teaching children than any mental image conjured up by the words of the teacher. Everybody knew how faint these images grew unless they were constantly revived by new observations of the actual object. Objections to the teaching of concrete terms in this way would apply with immensely greater force when we came to deal with abstract terms, and he believed that a teacher who should restrict himself to the Gouin method would meet with insuperable difficulties. The lecturer had referred to Pestalozzi's question as to why nature, which had given us one tongue, should not give us ten others. But the answer was sufficiently obvious. The mother tongue was learnt during childhood, when the mind was in a peculiarly receptive state, and readily associated names with things with which it was making its first acquaintance. After this early period, the mind could not feel the same interest in things as during its first experience, and had less power to associate new names with them. He was glad to see that the lecturer, in describing what he called basic language, fully recognised the importance of the fact that in every language there was one language which was in daily use, and another which was reserved for particular occasions. Children naturally learned first the words which make up the more commonly used language, and therefore these were the words which should first be dealt with in teaching any language.

Mr. SWAN having briefly replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A Meeting of the Council took place at the College, Bloomsbury Square, on the 17th June. Present—Mr. J. Stewart, Vice-President, in the Chair; Rev. R. Alliot, Miss Bailey, Mr. Barlet, Mr. Baumann, Rev. J. O. Bevan, Mr. Bidlake, Mr. Bowen, Mr. Brown, Mrs. Bryant, Dr. Buchheim, Mr. Charles, Mr. Chettle, Dr. Dillon, Mr. Eve, Mr. Harris, Rev. Dr. Hiron, Rev. W. T. Jones, Mr. Milne, Rev. G. P. Pearce, Mr. Pinches, Mr. Reynolds, Mr. Robinson, Mr. Rule, Rev. W. J. Savell, and Rev. Dr. Scott.

The minutes of the last Meeting were read and confirmed.

The Secretary reported the number of candidates entered for the Midsummer Certificate Examination to be 6,430, an increase of 16 per cent. as compared with the previous Midsummer Examination. The number of candidates entered for the forthcoming Diploma Examination also showed a considerable increase on the Diploma Examination in July last.

The Rev. Canon Daniel was appointed to deliver the Course of Lectures on Practical Teaching, to commence on the 28th of September.

Wednesday, the 26th of July, was fixed as the date of the next Ordinary General Meeting of the Members of the College.

The Draft Report of the Council to the General Meeting was considered, and referred to the President, Vice-Presidents, and Dean for final revision.

The following persons were elected members of the College:—

Miss E. A. Lawrence, A.C.P., Oakhurst, Knutsford, Cheshire.

Mr. R. B. Lee, B.A., B.Sc. Lond., 6 Warwick Street, Kensington.

Mr. W. Machell, A.C.P., Victoria College, Hong Kong, China.

Miss E. M. Schmidt, A.C.P., 29 York Place, W.

The following books had been presented to the Library since the last Meeting of the Council:—

ALLMAN & SON.—The New Morell, and the High School Manual of Geography.

BELL & SONS, G.—Uncle's Tom Cabin (Bell's Reading Books).

LONGMANS, GREEN, & CO.—Sankey's Sand's François le Champi.

PHILIP & SON, G.—Hughes and Williams' Introduction to the Study of Geography. Calendar of the University College of Wales, Aberystwith.

OVER-PRESSURE IN FRENCH SCHOOLS.

By the Rev. WILLIAM BURNET, M.A., British Chaplain at Lille.

THE ever-increasing demand of the age for a higher mental training of the children of all classes is leading to a natural and serious reaction. The pendulum, which has swung too far in the one direction, is now swaying towards the opposite extreme. In France, for instance, where education of all kinds has been advancing with rapid strides, the question of "over-driving" ("surmenage," as it is expressively termed) is now occupying a large share of public attention. The train has been driven at such high speed that directors and passengers are afraid of a crash, and are for putting on the brakes at once. This danger may be more urgent there and in other countries than amongst ourselves; still, the experience of our neighbours claims our earnest attention.

A few years since an interesting experiment was made in Denmark and Sweden in order to ascertain the laws of growth in children. In consequence of a report published by Dr. Hertel, of Copenhagen, a Commission was appointed to investigate the health of scholars in all the schools of Denmark. The same was done in Sweden. For this purpose fifteen thousand boys of the secondary Swedish schools, and three thousand girls in private schools, all of the wealthier classes, were measured and weighed at certain intervals of time. It was found that boys from seven to eight years of age grew rapidly; in those from nine to thirteen the growth was less marked; whereas between the ages of fourteen and fifteen—the time of puberty—they increased still faster in height and weight. The periods of the girls' development corresponded with those of the boys, but were more rapid. It was also stated that the children of the well-to-do classes were physically a year in advance of those of the same age amongst the poor. Another result of these inquiries at Stockholm was very unsatisfactory. At the end of the first school year 17 per cent. of the children medically examined were found sickly or ailing; at the close of the second year, 37 per cent. were so; and after the fourth year, the number of sufferers had risen to 40 per cent. Similar results were reported in Denmark. In both countries the cause appeared to be the same, the mental strain augmenting in proportion as the scholars advanced in the classes, although the hygienic conditions were unchanged. This was found to be especially the case with the girls, 61 per cent. of whom evinced signs of chronic ailments, more or less serious, and 10 per cent. had curvature of the spine. The excessive length of the hours of study, at least in the colleges, seemed to fully account for this state of things.

Turning to France, we there hear of loud complaints of the

same growing evil, and of various methods being proposed to counteract it. Nor are the authorities waking up a moment too soon to the gravity of this subject. In that country the school hours, like those of labour and business, are much longer than our own. The primary schools are open for thirty hours in the week of five days (Thursday being a holiday), and in addition the children have home-lessons to prepare in the evenings. In 1888 a Commission, appointed by the Government, recommended a reduction of hours according to age, viz.: to three-and-a-half hours daily for scholars from seven to nine years old; to four-and-a-half hours for those from nine to eleven; to five-and-a-half for those from eleven to thirteen. But these very reasonable suggestions have not as yet been adopted, although there is a growing feeling in their favour. In the Lycées and other secondary schools the case is even worse. There the boys generally enter at nine years of age, and they, as well as their seniors, are doomed, on an average, to ten hours' work daily in class, or in preparation for class, with only four intervals for recreation, amounting in the day to three hours for the lower classes, and two hours for the higher. The regulations vary, indeed, in different places; but these, according to Dr. Rochard, are the hours in most. What, then, are the results? The same writer states that it has been shown from statistics that, of the young men exempted from military service on account of weak health, those who have taken a Bachelor's degree are the most numerous. He also says, from his own observation as a physician, that nervous affections, brain diseases, dyspepsia, myopia are largely prevalent in schools. All, of course, are not equally affected by these long hours. There will be a considerable number in every school who are content to pass their time in dreamy abstraction, and hardly think at all. It is the bright, intelligent, industrious lads who feel the pressure, and whose bodily and mental powers suffer from it, though they never complain. Nor is the mental gain so great in their case as it may seem. All really vigorous students know well that, once the point of weariness is reached, the brain refuses its office, and progress is at end. As the Rector of the Academy of Chambéry remarked, in a recent report to the Commission: "The real result of work is in inverse proportion to its duration. The mind forms habits of dreaming, which are often unhealthy. The idleness and thoughtlessness of many pupils have no other cause."

Now, such is the state of things which the highest educational authorities in France are striving to remedy. Unfortunately, they are by no means agreed as to the best solution of this most perplexing problem. On the one hand, they are seeking to neutralize the evils of over-pressure by increased physical exercises; and, on the other hand, to gain time for exercises and play, they propose to diminish the number of subjects to be taught, and to reduce the hours of study. The "Ligue Nationale de l'Éducation Physique," and the "Comité pour la propagation des Exercices Physiques dans l'Éducation," are doing important service in the first direction. Such leading men as M. Jules Simon, formerly Minister of Public Instruction, M. Gréard, Vice-Rector of the Paris Academy, and Dr. Rochard, take an active part in both these movements, and already with considerable success.

But the second remedy is far more difficult to apply. It is evident that the pressure cannot be relieved without a rearrangement of subjects, and the sacrifice of some in certain cases. All admit that it cannot be necessary that all pupils, whatever may be their tastes and capacities and future callings, should acquire the same branches of knowledge. This being so, the question arises, and is being ardently discussed, Which subjects can be best dispensed with, and for what classes of pupils? The ancient classics, modern languages and literature, sciences, physical and mental, besides geography, history, mathematics, drawing—all claim a more or less prominent place in the curriculum: which is to give way? Since the disastrous war with Germany, the French, finding their inferiority to the Germans and other nations in the knowledge of foreign languages, have made them a *sine quâ non* in most of their schools and colleges. In 1872, M. Jules Simon imposed the learning of either German or English upon all boys in the Lycées. They are included in the programme for the first six years of the special secondary course, and for the last three years Spanish and Italian are added. The practical utility, as well as educational value, of natural sciences, are also very generally acknowledged. Many parents, again, are very unwilling that their sons should be deprived of the benefits of classical study. Accordingly, various schemes of secondary education have been, from time to time, introduced. In 1852, M. Fortoul devised a system of "bifurcation," by which

all pupils passed through a course of preliminary training preparing them for the choice of one of two branches of more advanced instruction in either science or literature, leading up at the end the one to the degree of *Bachelier-ès-Sciences* and the other to that of *Bachelier-ès-Lettres*. In 1865 a third branch was organized by M. Duruy, the "*Enseignement Secondaire Spécial*," for the benefit of youths intended for industrial or mercantile pursuits. This last does not appear to have been very popular: Public opinion has been for the most part averse to it, and provision has been since more effectively made for the same purpose in connexion with the primary schools. Still, M. Gréard, in his work on secondary education, strongly urges its continuance. Amongst other schemes, that of M. Ferneuil has met with the most favour. It may be described as one of "trifurcation." He proposes a preparatory course of five years for all boys, embracing the elements of science, French, modern languages, history, geography, and drawing, and that this should be followed by one of three sections of study—the first mathematical, with a view to admission to Government schools; the second of natural science, French literature, and modern languages, for those intended for industries or business; the third of Latin, Greek, philology, &c., for youths who wish to pursue such studies. We cannot here attempt to discuss the pros and cons of these various schemes. Unhappily, whilst the doctors are debating the case and its treatment, the patient still suffers, and may die under their hands. As an able French writer has forcibly remarked: "*En France ce qui est durable, c'est la routine, et la force d'inertie luit toujours par triompher.*" Still, we trust, it will not be always so. It is a great matter that public attention has been aroused to the greatness of this evil, and ere long some practical solution will, doubtless, be found.

EDUCATIONAL NOTES AND SUMMARY.

THE annual lecture under Sir Robert Rede's foundation was this year delivered in the Senate House at Cambridge, by Professor Michael Foster, M.A., F.R.S., Fellow of Trinity College, whose subject was "Weariness." The Vice-Chancellor presided, and there was a large attendance. The Senate House was darkened, and the lecture was illustrated by experiments, conducted by Dr. Shaw, with the assistance of Mr. Hardy. Professor Foster said that, among the many shortcomings which limited the power, and so the usefulness, of the machine which we called the human body, two stood out prominent among the rest: these were, on the one hand, inertia or laziness, the unwillingness to stir, and, on the other hand, weariness, the getting tired. He laid before his audience such knowledge as the physiologists of to-day possessed, although he admitted that it was but little, concerning the physical basis of this weariness, which so greatly shortened the power of man. The professor compared weariness of brain and weariness of muscle, and concluded as follows. The hunted hare died, not because he was choked for want of breath, not because his heart stood still, its store of energy having given out, but because a poisoned blood poisoned his brain and his whole body. So also the school-boy, urged by pride to go on running beyond the earlier symptoms of distress, struggled on until the heaped-up poison deadened his brain, and he fell dazed and giddy, as in a fit, rising again, it might be, and stumbling on unconscious, or half-conscious only, by mere mechanical inertia of the nervous system, falling once more, poisoned by poisons of his own making. All our knowledge went to show that the work of the brain, like the work of the muscles, was accompanied by chemical change, and that the chemical changes were of the same order in the brain as in the muscle. If an adequate stream of pure blood were necessary for the life of the muscle, equally true, perhaps even more true, was this of the brain. Moreover, the struggle for existence had brought to the front a brain ever ready to outrun its more humble helpmates, and, even in the best-regulated economy, the period of most effective work, between the moment when all the complex machinery had been got into working order, and the moment when weariness began to tell, was bounded by all too narrow limits. If there were any truth in what he had laid before them, the sound way to extend those limits was not so much to render the brain more agile as to encourage the humbler helpmates, so that their more efficient co-operation might defer the onset of weariness.

On Saturday, June 17th, in answer to a deputation of the N.U.T., urging the desirability of withdrawing that clause of Article 73

of the Code which makes a distinction between teachers trained in training colleges and those not so trained, Mr. Acland said that he was a great advocate for extending the training of teachers to the higher sphere of secondary education, whether by college training (which he believed to be the best), or by non-college training. The mere going to a training college would not necessarily make a good teacher. Still, the more teachers who could be sent to college the better, and the Department was doing its best in a rather transitional state of things, to increase in every possible way the opportunities offered by the day-training colleges in connexion with the Universities and University colleges. He should not draw a distinction between a highly-cultivated University man and any other teacher who had obtained, under much greater difficulties than the ordinary University man, a London degree side by side with his teaching work. He should consider the University man as much untrained as anybody else. Young men who had just taken their degrees were pitchforked into private schools to which the middle and upper classes sent their sons, and they were absolutely untrained—utterly unfit, very often—to give the education which was so highly paid for. In conclusion, he promised to consider very carefully the representations which had been made to him; and he assured the deputation that in drawing the distinction against which they protested there had been no desire to cast a stigma upon one class of teachers or to class them as inferior.

By the untimely death of Miss E. Maud M. Barker, B.A. Lond., which occurred at Windsor on May 25th, this journal has lost a valued occasional contributor. Miss Barker was the elder daughter of Dr. Barker, of Clewer House School, Windsor, and, although only twenty-four years of age, had already won for herself a position of promise and of influence. At the time of her death she was Mathematical Mistress at the Clergy Orphan School, St. John's Wood.

THE Report of the Governors of Wellington College for 1892, which has just been issued as a Parliamentary paper, shows that the ordinary income of the College was £30,181 16s. 5d., of which £24,274 16s. 8d. was for boys' board and tuition; the ordinary expenditure was £28,917 3s., leaving a balance of £1,214 13s. 5d. The extraordinary expenditure, most of which was incurred in connexion with the recent sanitary works carried out at the College, and the consequent temporary removal of the school to Malvern, was £26,786 10s. 9d., which, after deducting the balance of income over ordinary expenditure, leaves a deficiency at the end of the year of £25,571 17s. 4d. The balance on January 1st last year was £93,319 16s. 8d., so that the net balance on January 1st this year was £67,747 19s. 4d., the whole of which has been applied to capital purposes.

As Waterloo Day falls this year on Sunday, the annual speech day and presentation of prizes was held at Wellington College on Saturday, the 17th of June, when a large number of distinguished guests, and parents of boys in the school, were present. The occasion possessed an unusual and somewhat melancholy interest as being the last at which the Head Master, Mr. Wickham, will be present in his official capacity, after a service of twenty years. This year the Prince of Wales was the principal visitor, and there also attended the Duke of Connaught, Prince Christian, the Lord Chancellor, and the Duke of Wellington. The Prince of Wales said that, on the retirement of Mr. Wickham, he wished to express to him, on behalf of himself and the governing body, their high appreciation of the services which he had rendered to the College for the last twenty years, ably supported as he had been by Mrs. Wickham. After twenty years, the master had well earned his rest, and he hoped opportunities for further distinction in the Church would be afforded him.

MRS. FAWCETT's sub-committee on women's education having received from the Clothworkers', the Fishmongers', the Goldsmiths', and other City companies, a sum of rather more than £400, to be used to enable women teachers to attend the educational congresses at Chicago, the money has been distributed in grants of £50 each to the following ladies:—Miss Mitchell, Victoria College, Belfast; Miss Clapperton, St. George's Training College, Edinburgh; Miss E. A. Vinter, Examiner to the Fröbel Union, London; Miss M. E. Roberts, the Harpur Trust High School, Bedford; Miss M. V. Thomas, Training Department, Bedford College, London; Miss Louch, Training Department,

Ladies' College, Cheltenham; Mrs. Pritchard, the Schools, Kingsland, Herefordshire; and Miss Crees, Head Mistress, Girls' Department, Montem Street Board School, London.

A MEMORANDUM of the Education Department, on Free Education, begins as follows:—"Every father and mother in England and Wales has a right to free education, without payment or charge of any kind, for his or her children between the ages of three and fifteen." The Memorandum explains that this right is common to all classes alike, and further, includes a form of claim, which it invites any parent, who is unable to obtain free education in existing schools, to sign and send up to the Department. Other paragraphs explain what free education means, and how it is provided, and cautions parents who have claimed free education, and have not yet obtained it, to go on sending their children to school until provision is formally made for them.

THE Technical Education Board of the London County Council is now complete, the following nominations having been made by the various educational bodies:—By the School Board for London—Mr. J. R. Diggle, General F. J. Moberley, and Mr. E. Lynlph Stanley; by the London Trades Council—Miss Frances Hicks, Mr. G. Courtenay, and Mr. G. Shipton; by the City and Guilds of London Institute—Mr. H. C. Saunders (Q.C.), Sir O. Roberts, and Dr. W. J. Russell; by the trustees of the London Parochial Charities—Sir Philip Magnus and Mr. C. J. Drummond; by the Head Masters' Association—The Rev. G. E. Maekie; and by the National Union of Teachers—Mr. T. A. Organ. Mr. H. Llewellyn Smith and Mrs. Sophia Bryant, D.Sc., have been appointed as two representatives from outside the body of the Council.

LORD COLERIDGE'S classification of authors, as given in his address at the Salt Schools, Saltaire, is not likely to be approved by other great readers. The order is his own. He did, however, tell his hearers that, in selecting passages, in verse or prose, for the memory, the safest rule was to learn that which pleased their taste. Leaving out Greek and Latin authors, he would put Shakespeare above everyone else, next Milton, and then for daily use let them read Wordsworth. Afterwards came Gray, Shelley, Keats, Scott, Ben Jonson, Massinger, Pope, Dryden, and Young. Coleridge he, of course, omitted; and Tennyson he omitted because any estimate which placed him below Shakespeare, was the mark of a Philistine. Browning he had not been so fortunate as always to understand. At the head of prose writers he placed Lord Bolingbroke, and very near him Lord Erskine; then followed Burke, Bacon, Bishop Hooker, Jeremy Taylor, Sir Thomas Browne, Cardinal Newman, Nathaniel Hawthorne, and Southey. The list was short, but was sufficient to occupy a very long time to master thoroughly. He could not too earnestly recommend their acquainting themselves with good books; in sickness, misfortune, or sorrow, in sleepless nights and painful days, they would find their recollection of wholesome literature a constant solace and refreshment.

UNIVERSITY INTELLIGENCE.

OXFORD.

Professor Bryce, M.P., Chancellor of the Duchy of Lancaster, delivered his final lecture as Regius Professor of Civil Law in the University of Oxford at Oriel College, on June 10th. In the course of his address Professor Bryce said that twenty-three years had passed since he accepted the Chair of Civil Law, and now, in obedience to precedents of high authority, he went there to take formal leave. It was with divided mind and a limited allegiance that he had, especially of late years, come to the duties of his chair. Loving the University and his subject, he had perhaps clung too long to the hope of being able to cultivate a love of study and teaching, together with the participation in active politics. He now regretfully owned that, growing older and finding himself less and less able to keep abreast of the literature of a subject which demanded the devotion of a man's full powers, there was no course for him but to leave the chair ennobled by so many traditions from earlier centuries. He wished to bid farewell to his colleagues in the Faculty of Law, with whom he had lived for so many years in a friendship which no cloud of personal disagreement nor any divergence of political opinion had ever for a moment darkened. With the regret of parting he carried away the delightful recollection of those years, and a sense which time would not diminish of the honour it had been to be permitted so long to serve the oldest and most venerated of the dwellings of learning in Britain.

Mr. E. B. Poulton, M.A., of Jesus College, has been elected Hope Professor of Zoology, in the place of Professor Westwood.

There will be an election to one fellowship, after examination, at Merton College, in Michaelmas term next. This examination will be in the general subject of biology, and papers will be set in the special subjects of animal morphology, animal physiology, botany, and geology, as well as in the general subject. Each candidate is requested to select one or more of these special subjects, and to inform the Warden, by letter, of his selection by or before July 1. The fellowship is open to all persons who shall have passed all the examinations required by the University for the degree of Bachelor of Arts before the day of election. No candidate is eligible who is entitled to any property, pension, or office (tenable for life) yielding an income of more than £500 per annum. The value of it is £200 per annum. It is tenable for seven years from the day of election, but the holder may be re-elected if he shall be qualified either by the possession of certain offices in the college or University, or by eminent attainments, as provided in the statutes of Merton College. A further notice will be issued stating the date of the examination and election.

Convocation has passed a decree accepting a gift of £2,500 from Mrs. Richard Shute, to be held in trust by the University for the foundation of a scholarship and of an exhibition or exhibitions in memory of the late Richard Shute, M.A., Student of Christ Church, to be styled the Shute Scholarship and Exhibition or Exhibitions, and to be awarded to non-collegiate students, or persons *bonâ fide* intending to become non-collegiate students, being persons in need of assistance at the University, on such conditions as shall be determined, with the approval of the donor, by the delegates of the non-collegiate students. It was ordered that the thanks of the University be conveyed to Mrs. Shute for her generous gift.

Convocation also passed a resolution approving the proposal of the Council for inviting to an educational conference at Oxford representatives of the chief educational authorities and institutions, to consider the question of the organization of secondary education. The Dean of Christ Church expressed his opinion that the time had come for the University to take some part in the eager discussion now going on over secondary education. It would be impolitic to wait for further developments before taking part in the movement, which was indisputably of a most important character. It is understood that the conference will take place at the Schools on Tuesday and Wednesday, October 10th and 11th.

The Rev. Charles Pritchard, D.D., F.R.S., the Savilian Professor of Astronomy at Oxford, died at his house in Oxford on Sunday morning, May 28th. In spite of serious illness of long duration, he paid his visits to the Observatory almost to the last, and it is not long since his astronomical work obtained the highest possible recognition. Dr. Pritchard was a Fellow of St. John's College, Cambridge, where he took his degree as fourth Wrangler in 1830. For many years he was Headmaster of the Clapham Grammar School, and various men of distinction—the Dean of Westminster and others—owed to him their early training. In 1870 he was elected to the Savilian chair of astronomy at Oxford, and from that date he superintended, with unflagging zeal, the new Observatory in the Parks. He did not forget, in the midst of his University life, the time which he had spent at Clapham, for in 1886 the Old Boys of that school invited their old schoolmaster to dinner, and the result was a little volume called "Annals of our School Life," addressed to his former pupils. Professor Pritchard was in his eighty-fourth year at the time of his death. In spite of his great age he was in possession of all his faculties to the last.

The degree of M.A. *honoris causâ* has been conferred upon Mr. William Blaxland Denham (D.Sc. Lond.), Aldrichian Demonstrator.

The Encenia, or Commemoration of Benefactors, took place in the Sheldonian Theatre on June 21st, when the honorary degree of D.C.L. was conferred upon Lord Rosebery, Dr. Stubbs (Bishop of Oxford), Sir J. B. Lawes, Sir Charles Euan Smith, Dr. Liddell, M. Paul Meyer, and Mr. R. T. Tyrrell, each of whom was introduced in a Latin speech by Mr. Bryce, M.P., Regius Professor of Civil Law.

Since the Commemoration, time at Oxford has been taken up chiefly with "gandies" and quieties, the gaudiest of all being that on Balliol's Day, Saturday, June 24th.

CAMBRIDGE.

The chief events of the month at Cambridge are, of course, the declaration of the results of Parts I. and II. of the Mathematical Tripos, and the conferring of honorary degrees. The following are the Wranglers:—

MEX.—(Senior Wrangler) G. T. Manley, Christ's. (2) G. H. J. Harst King's; and C. P. Sanger, Trinity. (4) C. A. Gaul, Trinity. (5) T. Peel, Magdalene. (6) J. B. Dale, St. John's. (7) C. W. Cannt, St. Catharine's; and Hon. B. A. W. Russell, Trinity. (9) Atkins, Peterhouse; and H. Hott, Caius. (11) W. D. Bushell, Trinity. (12) H. G. Bell, Peterhouse; and J. M. Child, Jesus. (14) P. C. Bateman, Jesus; Perrott, Caius; and Wood, Christ's. (17) E. T. Dixon, Trinity. (18) P. T. Stephenson, Caius. (19) Harris, Clare. (20) R. E. Heron, St. John's; and Paterson, Trinity. (22) F. M. Gilbert, Christ's; and Jarvatt, Trinity. (24) R. B. Cummings, St. John's; Darrell, Christ's; E. C. Hudson, St. John's; and Watts, Peterhouse. (28) Foyster, Jesus. (29) Clarke, Pembroke; and Toogood, Corpus.

WOMEN.—A. M. J. E. Johnson, Newnham (between 5 and 6 of the men Wranglers); G. A. Stoney, Newnham (equal to 17).

Miss Johnson was born at Cambridge on 13th November, 1871. She was educated at Park-street Higher Grade School, Cambridge. She took a Second Class at Cambridge Junior Local Examinations and First Class in the Senior Locals, and was the only candidate distinguished in applied and pure mathematics. Leaving school, she studied privately, and entering the Cambridge Higher Local Examinations at the age of seventeen, she again was the only one to receive distinction for mathematics. She was then given a scholarship at Newnham. Miss Stoney, of Newnham, who is placed 17th Wrangler, was born at Dublin in June, 1869. Mr. Manley was born at Hull on 22nd May, 1872, and was educated at Wakefield Grammar School. Mr. Hurst was born at Ridgwell Vicarage, Halstead, Essex, on 3rd November, 1871, and was at school at Eton. He is a scholar of King's College, and took the University Bell Scholarship in 1891. Mr. Sanger, bracketed Second Wrangler, was born 7th December, 1871, at Brighton, and was educated at Winchester. He is a scholar of his college. Mr. Gaul is a Birmingham man, and was born in that town on 4th October, 1871.

The following tabulated statement shows the proportion of mathematical honours obtained at the different colleges and hostels, June, 1893:—

College.	Wranglers.	Senior Optimes.	Junior Optimes.	Total.
Trinity	7	6	8	21
St. John's	4	4	8	16
Christ's	4	1	3	8
Gonville and Caius	3	2	2	7
Clare	1	5	2	8
Pembroke	1	3	1	5
Corpus Christi	1	2	1	4
St. Catharine's.....	1	2	2	5
King's	1	2	1	4
Magdalene.....	1	0	1	2
Peterhouse.....	3	0	0	3
Jesus	3	0	0	3
Sidney Sussex	0	4	1	5
Queens'	0	2	3	5
Emmanuel.....	0	1	2	3
Trinity Hall	0	1	0	1
Selwyn Hostel	0	2	3	5
Ayerst's Hostel	0	1	0	1
	30	38	38	106

The recitation of the prize poems took place in the Senate House, June 13th, and was preceded by the ceremony of conferring honorary degrees in Law, Letters, and Music. The Maharajah of Bhowanagar, Lord Herschell (the Lord Chancellor), and Lord Roberts received the honorary degree of Doctor of Law, while the degree of Doctor in Letters was conferred upon Professor Zupitza, of Berlin, and Mr. Standish H. O'Grady. The famous composers Boïto, Max Bruch, Saint-Saëns, and Tchaikowsky were selected for the honorary distinction of Doctor of Music. The Public Orator (Dr. Sandys) introduced each of the distinguished personages to the Vice-Chancellor. The Maharajah of Bhowanagar, who was attired in native costume, was first introduced, allusions being made to his efforts to encourage education. He had established, besides elementary and secondary schools, a high school, and had established an Arts college at his capital affiliated to the University of Bombay. His courts of justice were in good repute, and he had raised a troop of Imperial Hussars for service in the British Army. Lord Herschell was introduced as *vir jurisperitissimus* who had an obvious claim to the degree of LL.D. As the author of the Act making it penal for money-lenders to send circulars to persons under age he was entitled to the gratitude of the University. Lord Roberts was the hero of the day, being saluted with the refrain for "He's a Jolly Good Fellow," and some little time elapsed before the Orator could proceed. The Orator designated him "Vir collegis suis devotissimus, dux militibus suis carissimus." Dr. Julius Zupitza, formerly Professor of English Philology at Vienna, and now Professor at Berlin, was described as being well known to students of Old English as an enthusiastic and able worker, teacher, and editor. He had done excellent service to Early English literature by his editions of "Beowulf," of "Guy of Warwick," and of the Old English poem of "Elene," on the finding of the Cross by St. Helen. Mr. Standish Hayes O'Grady was introduced as a graduate of Trinity College, Dublin. Next to be introduced were the four distinguished musicians, M. Charles Camille Saint-Saëns, author of the Cantata "Les Noces de Prométhée," and the operas of "Samson" and "Phryne." Max Bruch, who was born at Cologne, and one of whose earlier works was the opera of "Lorelei." The distinguished Norwegian composer Edward Grieg was unfortunately prevented from being present on account of ill-health. Peter Ilitsch Tchaikowsky, of St. Petersburg, was a distinguished pupil of Rubinstein.

The *Pall Mall Gazette* reports that "for these grave and great artists an entirely appropriate species of wit had been provided by the gallery. Thus they were entreated to perform upon the mouth-organ, and to give other elaborate exhibitions of their skill. The Public Orator, too, who

vainly pawed the air in deprecation of the compliments that on all sides were being paid to him, shared with the musicians many a recommendation and encouragement. One unfortunate collocation brought griefed and astonished interrogatory from the gallery. The Orator was dealing with Signor Boïto:—"Ipse Mefistofeles,"—he exclaimed, at the beginning of an impressive sentence; but the allegation proved too much for susceptible undergraduates, and the remainder was lost in severe inquiry. The degrees were, in fact, successively conferred, among much good-humoured enthusiasm, the while the Maharajah preserved his solid gravity. Serenest of all the musicians seemed Signor Boïto, and Max Bruch appeared deeply philosophical." Nevertheless, it was very generally admitted that the orations were received with more than usual favour, and often with well-timed approbation.

The report of the Special Board for Music, recommending that degrees in music should not hereafter be granted after residence, as in the case of other degrees; that the degree of Master in Music should be conferred entitling the holder to the privileges of a member of the Senate; and that the degree of Doctor of Music should only be granted to a person who has already graduated in some faculty of the University, and who is not less than 30 years of age, was approved by a large majority, the numbers voting not being taken. The regulations for the proposed new examinations were also approved. The existing procedure in the case of the degree of Bachelor of Music was retained for seven years, and for Doctor of Music for five years, the new system to run concurrently with the old. Under the new procedure every candidate for the degree of Doctor of Music will apply to the chairman of the Special Board for Music and send therewith not more than three works of his own, printed or otherwise, upon which his claim for a degree is based, such works to include either an oratorio, an opera, a cantata, a symphony for orchestra, a concerto, or an extended piece of chamber music. The application will be treated as confidential and be referred to a committee of the Special Board for Music. If the committee think these compositions constitute *prima facie* a qualification for the degree, separate reports are to be obtained from the Professor of Music and from not less than two additional persons, and if after consideration of these reports the committee are of opinion the degree should be granted, they shall communicate with the General Board of Studies, and should the General Board concur with the Special Board, the person shall be approved for the degree of Doctor of Music.

OTHER UNIVERSITIES, COLLEGES, AND SCHOOLS.

Mr. J. A. Cramb, M.A., has been appointed Professor of Modern History at Queen's College, Harley Street, on the retirement of Mr. Harold Cox, M.A.

A meeting of the Council of the University College of North Wales, Bangor, was held at the College on Wednesday, June 21st. On the report of a committee, of which Mr. W. Rathbone, M.P., was chairman, the following scheme for the supervision and residence of women students of the College next session was carried by a very large majority, an amendment referring the report back to the Committee for further consideration having been defeated by 13 to 3. It was resolved to appoint a Lady Superintendent, with control, subject to the disciplinary authority of the Senate, over all the women students of the College. In view of the urgent need of making an immediate appointment, and the difficulty of arranging for a meeting of Council in the long vacation, it was resolved that the appointment be made by the following committee:—Mr. W. Rathbone, M.P., Mrs. Verney, Mr. H. Bulkeley Price, Mr. P. P. Pennant, Rev. Ellis Edwards, Principal Reichel, and two representatives of Senate. The Directors of the present University College Hall are asked to state by July 3rd whether they will accept the Lady Superintendent so appointed as the head of their Hall, in which case the committee is instructed to confer with them as to the appointment. In case of their refusal to give this undertaking, the Council accept the proposals of the promoters of the new Hall of Residence, appoints the following four members upon its board of management:—Mr. H. Bulkeley Price, Rev. Principal Gethin Davies, Mrs. Verney, and Professor Spencer, and instructs the committee, which is to appoint the Lady Superintendent, to confer with the promoters of the new Hall before making this appointment. The Principal and the new Lady Superintendent (whom the promoters of the new Hall have undertaken to appoint as the head of their institution) will be members *ex officio* of the Board of Management.

PROPOSED EXAMINATION IN AGRICULTURE AT CAMBRIDGE.

The syndicate appointed on June 1st to consider the desirability of establishing an examination in agricultural science, and to grant a diploma connected therewith, under the supervision of a special managing syndicate, have issued their report, in which they state they are of opinion that the University would do good service to the cause of education by instituting such an examination, and by conferring diplomas certifying that the holders possess a competent knowledge of the science and practice of agriculture upon those who pass the examination with credit. The syndicate recommend a scheme for examinations in agricultural science as follows:—"The examinations in the science and practice of agriculture to be held once a year, or oftener if the managing syndicate shall think

it expedient. The subjects of examination to be—each subject with special reference to agriculture—(1) Botany; (2) chemistry; (3) physiology and hygiene; (4) entomology; (5) geology; (6) mechanics and engineering; (7) bookkeeping; (8) agriculture. To these eight subjects may be added—(9) surveying; (10) veterinary science; (11) economics in relation to agriculture. The examination to be in two parts: Part I. to include subjects 1 to 7 inclusive, Part II. to comprise the remainder. No candidate to be admitted to Part II. until he has satisfied the examiners in Part I. There shall also be, if the managing syndicate think fit, a preliminary examination in the elements of botany, chemistry, physiology, geology, mechanics, and bookkeeping, or in some of those subjects. And candidates may at the discretion of the syndicate, if due notice be given, be required to pass such preliminary examination, or some other examination recognised as equivalent by the syndicate, before admission to Part I. A candidate who has passed both parts of the examination shall be entitled to a diploma testifying to his competent knowledge of the science and practice of agriculture, and a candidate who has passed Part I. shall be entitled to a certificate to that effect. The examination shall be held at Cambridge and at such other places as the syndicate may approve. The managing syndicate shall be authorized to entertain applications for the appointment of persons to inspect schools of agriculture or of some department of agriculture or horticulture receiving grants of public money either from the Government or a county council, and to examine classes which have received regular instruction in some department of agriculture provided by a county council or other public body, on the understanding that all expenses attending such appointments and such inspections shall be defrayed by the schools or by the bodies providing the instruction. The managing syndicate is to consist of the Vice-Chancellor, the Professors of Botany, Chemistry, Geology, and Physiology, and six members of the Senate nominated by the council of the Senate and elected by grace of the Senate. The examinations are open to members of the University, and also to persons not members of the University, under such conditions as the syndicate may determine."

Alphabetical List of the Principal College and School Books, and New Editions, published during the month ending June 30th, 1893.

- Bacon's Advancement of Learning, Book 2, by Selby, 3s. 6d. cl.
 Bartholomew's (J. G.) The Tourist's Atlas Guide to the Continent of Europe, cr. 8vo, 5s. cl.
 Bell's (N.) The Tourist's Art Guide to Europe, 12mo, 5s. cl.
 Boulger's (D.C.) Short History of China, 8vo, 12s. 6d. cl.
 Brugmann (K.): Grundriss der vergleichenden Grammatik, Indices, 6m.
 Chesterfield (Philip Dormer, 4th Earl), Memoirs of the Life of, by W. Ernst, 8vo, 10s. 6d. cl.
 Cheyne's (T. K.) Founders of Old Testament Criticism, 7s. 6d.
 Cross (M. I.) and Cole's (M. J.) Modern Microscopy, a Handbook for Beginners, 8vo, 2s. 6d. cl.
 Deschanel (E.): Lamartine, 2 vols. 7fr.
 Dictionary of National Biography, edited by S. Lee, Vol. 35, royal 8vo, 15s. net.
 Dyer's (H.) Science Teachings for Schools, 12mo, 2s. cl.
 Emerson (P. H.) On English Lagoons, cr. 8vo, 7s. 6d. cl.
 Geikie's (J.) Fragments of Earth Lore, Sketches and Addresses, 8vo, 12s. 6d. cl.
 Hawkins (C. C.) and Wallis's (F.) The Dynamo, its Theory, Design, and Manufacture, cr. 8vo, 10s. 6d. cl.
 Herbst (L.): Zu Thukydides, Part 2, 3m. 60.
 Herodotus, Book 8, Urania, With Introduction and Notes, by E. S. Shuckburgh, complete, 12mo, 4s. cl.
 Horace's Odes and Carmen Seculare, translated into English Verse, by T. A. Walker, cr. 8vo, 3s. 6d. parchment.
 Horace, Odes and Epodes, trans. by Sir S. De Vere, net. 7s. 6d.
 Johnston's (W. J.) Elementary Treatise on Analytical Geometry, cr. 8vo, 10s. 6d. cl.
 Kilgour (M. H.), Swan (H.), and Biggs's (C. H. W.) Electrical Distribution, its Theory and Practice, cr. 8vo, 10s. 6d.
 La Roche (J.): Homerische Untersuchungen, Part 2, 5m.
 Lincoln (Abraham), by J. T. Morse, 2 Vols. cr. 8vo, 12s. cl.
 Lippincott's Gazetteer of the World, originally edited by J. Thomas, Revised Edition, roy. 8vo, 63s. half bound.
 Poole's (S. L.) Aurangzib, cr. 8vo, 2s. 6d. cl. (Rulers of India Series.)
 Salter's (W. M.) First Steps in Philosophy, Physical and Ethical, cr. 8vo, 2s. 6d. cl.
 Sarcey's (F.) Recollections of Middle Life, translated from French, by E. L. Carey, 8vo, 10s. 6d. cl.
 Solly's (H. S.) Gospel according to St. Mark, cr. 8vo, 3s. 6d. cl. (Biblical Manuals.)
 Spencer's (H.) Principles of Ethics, Vol. 2, 8vo, 5s. cl.
 Sweet's (H.) Primer of Historical English Grammar, 12mo, 2s.
 Swift (Jonathan): A Biographical and Critical Study, by J. C. Collins, cr. 8vo, 8s. cl.
 Thomas's (P. A.) Enunciations in Arithmetic, Algebra, Euclid, and Trigonometry, 12mo, 2s. cl.
 Tout's (Prof. T. F.) Edward I., cr. 8vo, 2s. 6d. cl. (Twelve English Statesmen.)
 Xenophon's Anabasis, Books 1 and 2, with English Notes, by A. Pretor, 12mo, 4s. cl.

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THE EDUCATIONAL TIMES.

LONDON, JULY 1, 1893.

PROFESSOR BRYCE, in his farewell lecture at Oxford, sketched the momentous changes which have taken place in that University during his occupancy of the Chair of Civil Law. The University had nearly doubled the number of its inhabitants, and largely increased the number of its teachers. It now drew men much more largely from the less wealthy classes of the country; theological tests had been abolished, and persons not belonging to the Church as by law established, had come to resort freely to it. The unfortunate consequences that were predicted when the tests were abolished had not followed, but, on the contrary, there had been a marked diminution of theological controversy, and a growing sense of friendliness and sympathy among Christians, and a more diffused peace in the minds of students. The examination system had been remodelled—with a regrettable, but perhaps inevitable, increase of complexity—as well as enlarged by the inclusion of new studies. The University and the Colleges had been dealt with by Parliament, and by an Executive Commission. Some undoubted evils, which had accompanied the changes, had been, at least partially, compensated for by the real gains. The standard, both for honours and for the pass degree, had steadily risen, and this rise had been accompanied by an increase of candidates.

Of the two oldest Universities, Cambridge has shown the more activity, and has made the most radical changes. Indeed, many who remember the days when the curriculum of Cambridge had only two sides, will consider that the readiness to adopt new subjects amounts to precipitation. It has multiplied its triposes, and complicated its curriculum with alternative courses and many cross-roads, until it is incomprehensible to most people who have not followed the changes as they have been made. And at last enterprising publishers have discerned a demand for a "Guide to Studies at Cambridge," which has been duly supplied.

Now, the latest innovations fortunately indicate that the University at last recognises the fact that it may multiply the subjects of study and examination without multiplying its degrees. It has long since ceased to occupy itself exclusively with giving a liberal education. It does not now neglect professional studies; and, further than this, it has recently provided for those who desire not so much to follow a regular course of general culture, or to obtain a degree, as to perfect themselves in some special branch of knowledge. For instance, a Syndicate appointed on June 1st has issued a report in which they affirm that the University would do good service to the cause of education by establishing an examination in agricultural science, and by conferring

diplomas certifying that the holders possess a competent knowledge of the science and practice of agriculture. The science of agriculture, as outlined by the Syndicate's list of studies, becomes so formidable an affair that it is very unlikely intending farmers will present themselves for examination in any numbers. Moreover, men actually engaged in farming can hardly find time or means to master the extensive and very various lists of subjects recommended in the report. The Syndicate proposes to certify competency in the practice as well as in the science of agriculture. This adds to the difficulty, and we may safely conclude that the proposal of the Syndicate will certainly fail to revive the sadly declining industry of agriculture. Nevertheless, we recognise some good in the proposal; it may accustom the University to the notion that it can give some assistance to special or commercial studies, without necessarily including them in the work for a degree. It will do good if it wards off the notion that Doctors of Commerce should weigh our sugar and Doctors of Agriculture plough the land. Once in a time in the history of England, whenever the land of a barony was divided between two holders, the number of baronies was thereby increased. If the process had lasted until now, every owner of three acres or less of freehold would have been a baron. An Act of Parliament, however, destroyed the process. It is a question whether the time has not arrived for similarly putting an end to the multiplication of degrees.

The new conditions for the degrees in Music at Cambridge seem, at first sight, to increase the number of degrees; but, at the same time, they are strictly in conformity with the regulations for other degrees, and we are, therefore, not surprised to learn that the series of new regulations concerning the ordinary musical degrees passed the Senate by a large majority. The change they bring into force affects both the existing degrees, and involves the creation of a new degree between the two. By them, Music is placed on a level with all the rest of the faculties, and the degree will, in future, be granted only after the usual term of residence, and a certain amount of such general education as is required from those who proceed to the Arts degree.

The examination for the degree of Doctor of Music is completely changed. Henceforth it is to be granted for some real achievement, not necessarily exhibited in works specially written for the occasion of the examination, but in works of any date in the author's career. Not more than three compositions are to be submitted in preferring a claim for this degree, and one of the three must be a work of real merit and permanent value. The intermediate degree of Master in Music is intended to take the place now occupied by that of Doctor. It is to be gained by an examination of the usual type.

THE Fortieth Report of the Charity Commissioners for England and Wales, recently presented to Parliament, affords very satisfactory evidence of the growth of our public secondary schools. The work of the Commission under the Endowed Schools Acts, 1869 to 1889, increases steadily year by year, and has now reached such a magnitude that legislation is necessary for its better organization and co-ordination with the educational work of other public departments. During the past year an increased demand was

made for new or amending schemes for educational endowments, arising out of the due application of the money placed at the disposal of County Councils under the Local Taxation Act, 1890. "The possibility of aid under that Act has opened up the prospect of a new future for many schools which have hitherto languished from insufficient endowments, and it seems likely that many of the minor grammar schools which have hitherto escaped reform, for no other reason than that their resources were too small to serve any effective purpose, may under new schemes become valuable centres in a system of intermediate education." Several schemes are now in progress for endowments of this type where aid from the County Council is either promised or anticipated, and it is expected that, as County Councils mature their plans for the due application of the funds entrusted to them under the Customs and Excise Act of 1890, an increased demand will be made on the Commissioners in this connexion.

The magnitude of the revolution that has thus been accomplished by accident in the status and resources of public secondary schools under the legislation of 1890, will be the better appreciated by a comparison of the amount applicable in England from local taxation and from endowments to secondary and technical education. It appears that the yearly sum so applicable under the Act of 1890 by County Councils in England (exclusive of Monmouthshire) is about £700,000, while the gross income of the endowments, in the same area, known as subject to the powers of the Endowed Schools Acts is calculated at £697,132. Thus the annual income applicable to intermediate education has been doubled, not merely by a stroke of the pen, but by a stroke of luck. It, therefore, happens that one-half the available resources of the country for secondary education are under the jurisdiction of the Charity Commissioners, and the other half under the control of the County Councils, bodies having no necessary connexion with each other. It is manifest that the work of the two agencies should be co-ordinated, if waste is to be avoided. This can only be done by legislative organization directed to that end.

Meanwhile, it is satisfactory to learn that the initiative taken by the Charity Commissioners in communicating with County Councils concerning all pending schemes within their respective counties, secures the co-operation of these bodies, and prevents at least some of the evils that might otherwise attend the working of independent educational authorities. In pursuance of this wise policy, the Commission approached the London County Council last year with a view of ascertaining whether that body would be disposed to take part in the government of a large number of secondary schools in the metropolis which are regulated by schemes settled before the Council came into existence. It need hardly be said that the Council, undeterred by the appalling magnitude of its own work, returned an affirmative answer to this inquiry. The result is that the London County Council will be connected administratively with governing bodies having charge of thirty-six secondary schools in London—a fact which, we trust, will not be lost sight of by the usually apathetic middle-class voter when the next election for County Councils comes round.

The Commissioners state that their more recent experience has tended to confirm the views expressed in former reports in regard to the need of further legislation, and they point out

the great stimulus to educational organization which may be given by enlisting county feeling in the work, as has been done under the Welsh Intermediate Education Act. "The same effect is noticeable in England," we are assured, "though to a less extent; and while the existence in Wales of a popular movement for a general advance in education must be partly credited with the relatively greater progress which has been made towards a completely organized system of secondary instruction, yet this of itself would have been of little avail but for special legislation, whereby the scope of the local bodies was extended beyond the limits of technical education, and a character of permanence was in all cases given to educational machinery which it may be found necessary to establish."

There cannot be two opinions as to the desirability of clearing up as speedily as may be the doubt which hangs over the future action of County Councils in regard to secondary education, and as this can only be done by fresh legislation, we think the Charity Commissioners do well to direct public attention to this important matter.

A RECENT debate in the Lords would seem to indicate that the organization of secondary education in Scotland is likely to suffer at least a temporary check, owing partly to the short-sighted selfishness of local bodies, but mainly to the weakness and vacillation of the Scotch Education Department. Our readers doubtless recollect that Scotland, by the appropriation of the grants from the national exchequer in aid of local taxation to the abolition of school fees, secured for herself a system of free primary education in advance of England. When the latter's opportunity came, the late Chancellor of the Exchequer, in freeing English primary education, had also to provide an "equivalent" grant for Scotland. Such grant being no longer needed for primary education, it was decided to utilize it in the promotion of secondary education. Accordingly, the late Government, after due inquiry by a Special Committee, issued a minute dealing with the distribution of the sum available for this purpose. That minute never obtained the sanction of both Houses of Parliament, owing to the change of Government. It contemplated the appointment of local advisory committees, consisting of a certain number of members elected by the County Council, with an equal number of members elected by the Chairmen of the School Boards of all the parishes and burghs in the county, and of one of Her Majesty's Inspectors of Schools, to be nominated in the case of each county by the Scottish Education Department. The function of the County Committee so constituted was to inform the Education Department as to the character of the schools within its area, and to advise as to the disposal of the grants to eligible schools.

Now, whatever defects might, after trial, be disclosed in the working of this scheme, *prima facie* it seemed calculated to attain the end for which it was designed. That the Secretary for Scotland, Sir George Trevelyan, was disposed to allow it a fair trial, is to be inferred from the fact that he adopted it with slight modifications in his first minute presented to Parliament. The adverse criticism, however, which this minute met with from certain Scotch members, caused him to withdraw it. He promised to make the changes his critics demanded, and, in fulfilment of his pledge, introduced

the minute dated the 1st of May. This last makes no attempt to proportion the supply of secondary education according to the need of each locality. It adopts the doctrinaire view that the allocation of the grant should be made on a population basis. Now, if no provision existed anywhere in Scotland for secondary education, it would still hardly be equitable or expedient, in establishing such, to treat wealthy populous centres on the same footing as poor, thinly-peopled counties. But, where localities are already adequately provided with good secondary schools, and, on the other hand, where there are places without such provision, it looks like a *reductio ad absurdum* of the principle of distribution according to numbers, to allocate the lion's share of the grant to the former, and to mock with miserable doles places whose only chance of securing good secondary schools depends upon their public endowment. Such, however, is the plan of distribution formulated in the minute of May 1st. It is not surprising that it has produced widespread dissatisfaction in Scotland, or that the House of Lords, making itself the exponent of this feeling, should have voted an address to Her Majesty praying that consent may be withheld from the minute. Not only Lord Balfour, who moved the address, but Lord Elgin and Lord Playfair, pointed out the difficulties which would attend its working. Lord Playfair, indeed, expressed his own preference for the superseded minute, and promised, on behalf of the Secretary for Scotland, that, should their lordships allow the minute to pass, he would, next year, apply lump sums varying from £120 to £200 to each of the counties in the distribution, so that much of the evil complained of would be prevented. This concession was not accepted, and, their lordships having divided, the address was carried by 84 to 25.

What the effect of this motion may be does not seem very clear. But, so far as the action of the Education Department is concerned, it would seem to be *nil*. At least this is the interpretation we put on the Queen's reply to the address. Her Majesty stated that the matter on which their lordships had expressed their wish had been submitted to the Committee of Council on Education in Scotland, and had received their careful consideration. The Committee were of opinion that it was expedient that action should be taken in accordance with the minute in its present form; but, if they should hereafter think that any alteration of its provisions would conduce to the benefit of secondary education in Scotland, such alteration would be laid before Parliament.

The moral of the controversy is that, neither from a financial point of view nor an educational point of view, is the existing system quite satisfactory. There cannot fail to be a great waste of public money when the bodies charged with its distribution have no responsibility. Nor can there be any guarantee that the composite committees, which might have served their purpose as temporary advisory bodies, will prove equal to the duty of permanently superintending the working of the secondary education of the country.

WE venture to think that there are few, if any, schoolmasters who will not heartily concur in the verdict of the jury in the *Gatty v. Farquharson* case. A fundamental principle of all school discipline is, that the moral and mental powers in childhood and youth are in process of formation

and development. Both are alike plastic; both yield to influences. It is true that "the child is father to the man"—and if the whole career of the child up to maturity were known the character of the man might safely be made out from it. But you cannot besmudge the reputation of the man by means of an error of the schoolboy made on one particular occasion, because, although the latter will undoubtedly indicate the tendency of the character at that particular moment, yet, before the days of training are exhausted, there may have been ample opportunity to obliterate the defects and to rectify the direction of the growth of character.

In the case quoted the circumstance used to damage a reputation was the withdrawal of a scholar by request from a particular school. It would complicate the action of schoolmasters very considerably if such a course of action were allowed to pass without decided condemnation. A dismissal or withdrawal by request may be necessary for the discipline of a school. Some gross irregularity, an act of impurity for instance, may have come within the knowledge of the whole school. The master's duty is not then limited to the reformation of the offender. He has to safeguard the rest of his flock, and, even as regards the offender, he may conclude that his reformation will be easier in surroundings in which the offence is not constantly in everybody's mind. In fact, there are so many considerations in such a case that it is most necessary schoolmasters shall be free to request the removal of a scholar without assigning definite reasons. As the Lord Chief Justice remarked, in the course of the case, many a man now holding an honourable position had when a boy been removed from school by his parents.

It would be a serious embarrassment to a headmaster, in such a matter, if it were possible that, although the removal might have the desired effect, and might lead to permanent amendment in the habits or character of the boy removed, yet that the incident might be brought up thirty or forty years afterwards to damn the public career of the man. The good sense of an English jury, however, has destroyed such a contingency by assessing damages at the exemplary figure of £5000. Even when the headmaster can be called to be questioned and cross-questioned on the incident, as Dr. Haig-Brown was in this case, it must remain too distant and too uncertain to justify any presumption as to the purity or integrity of the man of mature years. Hence the satisfaction which will be felt in all public schools that the decision of the jury was so decisive as in all probability to prevent a repetition of the blunder.

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This book of reminiscences, by the late principal of the Edinburgh Ladies' College, contains some word portraits and sketches, as well as some "happy episodes of a useful life," which are pleasant reading for teachers. Every chapter contains something suggestive as to method, or some "memories, which, like the fuel we burn, preserve the sunshine of the past." An illustration of the suggestive portions is found in the first chapter, on the way to teach history.

"Suppose you are teaching the history of Scotland. You will find in Edinburgh and its neighbourhood the scenes of many of the great events in that history. On the Saturday holiday, take your scholars to each of these scenes in turn. Pointing out the spot and standing on it, describe the whole event which happened there. By this contact with

the past your pupils will be inspired. Their imagination will be excited, and they will realize all the circumstances of the great action. They will now be eager to know more about the same subject, and they will read their text-book of history with a zest never known before. And what is most important of all, a historical interest will now be awakened, which will draw them to the other facts of Scottish history, and then to the other countries with which Scotland came in contact."

The sunshine of the past is seen in such descriptions as the following:—

"In my boyish days the old parish system of education was still in force. Amid its many drawbacks it had one great advantage—it gave the teacher a fair field for influencing his pupils with his own personality. In the parish teacher's life, it is true, there were many circumstances which tempted him to take things easy. He had a comfortable dwelling-house, and a large garden where he could cultivate prize cabbages and gooseberries. His scholars, though poor, were not squalid, but were decently-clad, porridge-fed rustics. On his Saturday holiday he visited some neighbouring farmer, or was driven by him to the market town. On the Sunday evening he dropped in at the manse to take a bit of supper and a tumbler of toddy with the minister. His work at school was not hampered and made mechanical by the east-iron rules of a code; and there was no Government inspection looming in the distance and throwing its shadow over half the year. The only examination was the yearly one by the Presbytery. The reverend examiners, a genial brotherhood, sat beaming approval of everything, were quite pleased if a few of the best lads crossed the Asses' Bridge or read an Ode of Horace, complimented the pupils and the teacher, and went away with easy consciences and sound appetites to the dinner which pleasantly wound up the proceedings. His salary was not large, but it was eked out by many canny jobs. Above all, his appointment was for life, and nothing but some scandalous breach of the moral law could put him out of his situation. Truly, the lines had fallen unto him in pleasant places! But, at the same time, this teacher was generally a University man, had caught at the University an enthusiasm for learning, and was glad of any opportunity to keep up his knowledge of the mathematics and the classics. It was his delight to initiate some intelligent, studious lad, the son of a small farmer or cottar, into the mysteries of Euclid and Latin prosody, and to prepare him for the college; and a proud man was he when he could tell at the yearly examination that Robert Smith or John Wallace, a former pupil, had gained a bursary or some other University distinction. In this way the parish teachers of Scotland had been the means, during many years, of picking out and utilizing for the benefit of the nation the latent talent in the lower strata of society."

Then the author gives us the portrait of an individual teacher, once the burgh-school master at Kinghorn, and we find it very much like a number of others whom we have known, both for the excellencies described and the weaknesses. The active constituents of his character were intelligence, sympathy, active benevolence, all overlaid and toned down by modesty. He was learned but not pedantic, kind but not effusive, active but not fussy, pious but not sanctimonious. To do good to others was as natural to him as to walk. Wherever there was suffering, wherever help was required, there he was sure to find his way. His presence was quiet and cheering, like a ray of sunlight, and was welcome to everyone. In his school there was no very strict discipline, but, on the contrary, a good deal of noise. It was "a noisy mansion," but he was so pleasant himself, and made the work so pleasant, that pupils could not help learning.

The description of St. Andrews is worth quoting:—

"There are no factories to pollute the air with smoke, and to crowd the streets with noisy operatives. There are no theatres or music-halls to entice young men away from their work. A learned quiet broods over the grey streets and time-honoured ruins, and invites to study and contemplation. . . . And for recreation, what better ground can all have than the extensive links, where during the whole year golfing goes on, and the green of the long undulating course is spotted with the red jackets of the golfers."

The truthfulness of the personal portraits which the work contains can be tested by many of our readers in the cases of men whom they have known—such, for instance, as Dr. W. B. Hodgson, late Professor of Political Economy, a native of Edinburgh and a pupil of the High School and University of that city.

"From his very boyhood he was noted for his scholarship, his universal information, and his powers of expression. His love for education amounted to a passion. He attended educational meetings; he collected educational books in different languages; he visited educational establishments both at home and abroad; and wherever he went and whatever he read, he was always on the outlook for new methods. If he had a weakness, it was his readiness to adopt what some of his critics called 'an educational fad.' He was decidedly 'hobby-horsical.' He kept a perfect stud of hobby-horses, and rode one after the other. Dr. Hodgson seemed to belong to the same genus as Shakespeare's Hamlet. He was occasionally melancholy, and his melancholy seemed to drive him to unresting

mental activity. 'Everything I did,' he said, 'was done in excess.' His mind was like a greyhound newly let slip, coursing swiftly to and fro across the field of knowledge, and seldom lingering long over one object. He wanted to know everything that came before the public notice. The result was that his mind was perplexed by the throng of subjects that were constantly crowding round it. No sooner had he begun to grapple with one than another pushed it aside. He never found time to treat any topic exhaustively; and he has left no great book behind him to be a monument of his learning and accomplishments. His published works consist of scattered pamphlets and lectures. One remarkable fact about Dr. Hodgson was that, while he was sometimes melancholy in his private life, he seemed one of the merriest of men when in company. It was an instance of mental action and reaction. It was the swing of the pendulum from one extreme point to the other. I fancy that I see him now at a dinner-table, among congenial friends. His head is large and fully developed, his face is well cut, and his voice is deep and decidedly Scotch in its intonation. But his most remarkable feature is his dark, brilliant eye, which seems to notice everything, and which is ready to sparkle at every stroke of wit and humour."

Dr. Pryde's volume is besprinkled with good Scotch stories, some quite new. In the last chapter, which describes his visit to London, there are stories which are not so good. For instance, he gives an anecdote of a London cabman's justification of swindling, in which cabby says he "wurks all hours." Old Weller may have "spelt it with a we, Samivel," but the modern cabby doesn't. Dr. Pryde's volume appeals more to teachers than to the general public; hence this lengthened notice.

(1) *Swift: Selections from his Works. Edited, with life, introductions, and notes, by Henry Craik. In two volumes. (Clarendon Press.)* (2) *Jonathan Swift: A Biographical and Critical Study. By J. Churton Collins. (Chatto & Windus.)*—So many biographies of Swift have been written that little which is within reach can have been left unsaid. But the peculiarities of Swift's character and temperament, the mysteries which surround parts of his career, especially that most romantic and yet most tragic thread which runs through his life, always attract human sympathy, and therefore provide material for new literary efforts. Mr. Henry Craik's volumes are books of selections made with good taste and great judgment, and edited with trained skill and sound learning. Mr. Craik's purpose is "to give (as fully as the exigencies of space and the taste of the present day permit) specimens of the whole range of Swift's work, and to elucidate by notes what is obscure in intention or recondite in allusion." The introductory prefaces give the student outlines of the subject of which each work treats, and the circumstances in which it was composed. The notes supply that necessary commentary the absence of which has hitherto marred the common appreciation of his genius.

"Men have learned a few typical phrases from his works; they have been attracted by the more obvious bursts of satire; they have singled out the passages which appeal to all time. But they have failed to follow the course of the satire line by line; to trace its movement and advance; and to identify the special reference to some now-forgotten incident, which gives to it appropriateness and force."

The first volume contains, besides the life of Swift, his earlier poems and his earliest prose works, including the "Dissensions in Athens and Rome," "A Tale of a Tub," "The Battle of the Books," and the "Journal to Stella." The last is described by the author as a monument which Swift would not himself have recognised as of any literary value, but which the world, most assuredly, will never allow to die.

"This 'Journal to Stella' is a continuous series of letters in which he depicts for her who, in all his busy and bustling surroundings, ever occupied the place closest to his heart, the scene in which he moved. Half the charm of the 'Journal' lies in its absolute ease and unconsciousness of effort, in the humour alternately playful and sarcastic, in the pathos and the anger, in the fierce self-assertion which would not conceal itself, in the fidelity which made his genius the willing servant of smaller men who played the part of his patrons—in a word, in all those varying traits which reflect Swift's character so exactly, and which let us see him at once in his pride and in his tenderness, in his power and in his weakness. We see him as the confidant of Ministers and the dispenser of patronage, as the frequenter of the Court and the companion of the great, and, again, as the boon companion of the victors and the vanquished in the world of letters; as the friend of Addison, of Congreve, of Atterbury, of Arbuthnot, of Pope; as the protector of Parnell and others more obscure, who have fallen into misfortune; and as the fierce combatant, who enjoyed recounting his triumphs to the one listener, so far removed, for whom all that affected him was the first interest of life."

Mr. Churton Collins, like Mr. Henry Craik, brings great knowledge of his subject, and literary skill and scholarship with

which to display it. He acknowledges that he is adding a drop to an ocean, but does not apologise.

"To apologise for a very deliberate act would be," he says, "affectation. Those who may do me the honour to read this book will, I think, find that, however open to question my views of the actions and character of this extraordinary man may be, they are at least the result of very careful study, and that, if I have added little, I have added at all events something, to our knowledge of the details of his biography. I hold no brief for Swift, but I have endeavoured to do him justice where justice has been either withheld or too grudgingly allowed. I have endeavoured to vindicate the consistency of his political principles, his character in all that related to practice and duty as a Churchman, the purity of his motives, as well as his wisdom, as an Irish agitator, and his conduct with regard to Stella and Vanessa."

How does he vindicate Swift's conduct with regard to Stella and Vanessa? Simply by assuming that Swift was never married to Stella.

"If Swift," he says, "was the husband of Esther Johnson, it may be admitted, without the smallest hesitation, that his conduct was all that his enemies would represent. It was at once cruel and mean; it was at once cowardly and treacherous; it was at once lying and hypocritical."

Hence in his generosity he puts forth the theory that Swift was never married to Stella. But the weakness of the theory lies in this omission: it affords no explanation of why Swift did not marry Stella. The book is worthy of the author, and should be widely read.

An Elementary Treatise on Analytical Geometry. By W. J. Johnston, M.A. (Clarendon Press.)—Less apology is probably needed for the issue of a new book on analytical geometry than would be required in many other branches of mathematics, and we view with considerable interest the volume under notice. It is a fairly complete treatise, as far as it goes, and contains a number of deviations from the usual treatment of the subject. The first three chapters deal with the principles of co-ordinates, and of the straight line, in which the only striking features are the use of the determinant notation, a fairly full discussion of the expression for the area of a triangle, and a short introduction to the theory of projections. The method of proving the concurrency of three lines, by solving the equations to two and substituting in the third, is, to say the least, distinctly feeble. The applications to geometry are very good, and well illustrate the methods to be adopted in solving problems. The fifth chapter, dealing with abridged notation, the line at infinity, harmonic and anharmonic ratios, and involution, contains as much information on these points as is required by ordinary students. The chapter on the circle contains a short introduction to invariance, which may be useful. In the chapter on the general equation of the second degree, we find some well-written articles, particularly those on a conic through four points, and the tangential equation. We notice that Mr. Johnston adopts Professor Purser's method of investigating the equation to a diameter. The chapter on the polar equation to a conic is marred by the solidus notation adopted, and the bad type used for the l 's; it is also unfortunate that the notation should be so mixed. The miscellaneous propositions of Chapter XIII. are distinctly good: the discussion of the various cases of $s - hs' = 0$ is fuller and neater than is usually found. Mr. Johnston adopts Dr. Taylor's term, *focoids*, for the circular points at infinity, and gives some useful properties of these points. Trilinear co-ordinates receives an unusually large share of attention, a feature of the book which we distinctly recommend. There is a copious supply of examples, many of which contain theorems deserving more important place. A number are taken from the *Educational Times*, and we are glad to see that, in all these cases, the author acknowledges their source. With the exception noted above, the type and get-up of the book are exceedingly good, and, on the whole, the work will take a good place in the modern literature of conics.

Theory of Structures, and Strength of Materials, with Diagrams, Illustrations, and Examples. By Henry T. Bovey, M.A., D.C.L. (John Wiley & Sons.)—A few years ago, Dr. Bovey published a work on Applied Mechanics, consisting mainly of a collection of notes intended for the use of his own students. The present volume may be considered as a second edition of that work, but the subject-matter has had so many additions made to it, and has been so rearranged, as to make it almost a new book. In its present form, it treats of that portion of applied mechanics which has to do with the design of structures, and will, we venture to predict, prove acceptable, not only to students, but to the profession at large. The thirteen chapters of the book take

up more than eight hundred pages, and contain much new matter, as, for example, the articles on "Surface Loading," "The Flexure of Columns," "The Efficiency of Riveted Joints," "Maximum Shearing Forces and Bending Moments," "The Flexure of Long Columns," "The Theorem of Three Moments," &c. The professional man will find much valuable information respecting the treatment of cantilever bridges, arched ribs, and the live loads on bridges, while the data respecting the dead weight of bridges will be specially helpful. At the end of each chapter a number of examples are arranged with a view to illustrating the subject-matter. The figures and illustrations show signs of careful drawing.

OUR LIBRARY TABLE.

Arrian's Anabasis of Alexander, and Indica. Translated, with a Copious Commentary, by Edward J. Chinnock, M.A. (G. Bell & Sons.)—The translated text and the notes in this book together form a fairly complete history of Alexander the Great. Great attention has been paid to the geographical part of the work, and much material has been gathered from Herodotus, Strabo, Pliny, and Ammianus, as well as from the Hebrew of the Old Testament, to illustrate the geography of Arrian.

Little Mothers: a Reading-Book for Girls in Domestic Economy. (Blackie.)—As this is intended to be a reading-book and not a scientific manual, it is cast in narrative form, and deals brightly with illustrations of the general principles of the subject. It is, consequently, well suited as a means of teaching expressive reading, besides forming a fitting preliminary to strictly scientific teaching.

Elementary Classics. The Sixth Book of the Iliad. Edited, with Notes, Introduction, and Vocabulary, by Walter Leaf, Litt.D., and M. A. Bayfield, M.A. (Macmillan.)—The notes in this edition are based on those of Mr. Leaf. Hence his name is added to the fly-leaf.

Matriculation Directory, No. 14. (W. B. Clive & Co.)—The *Matriculation Directory*, published in connexion with the "University Correspondence College," has been brought quite up to date. Number 14 contains, in addition to introductory notes, regulations, and advice on the subject of text-books, the papers set in each subject at the June examination of this year, with complete answers. The book is invaluable to the intending candidate.

Practical Hints to Small Investors. By A. J. Wilson. (Longmans.)—The substance of this book consists mainly of articles reprinted from the *Investors' Review*. The information it contains is thoroughly reliable, and the advice is good.

Uncle Tom's Cabin; or, Life among the Lowly. Abridged for use in School. (George Bell & Sons.)—*Uncle Tom's Cabin* is a fitting addition to Bell's Series of Reading-Books. The illustrations have evidently served in the early editions of the book.

We have received the following wall diagrams from Messrs. G. W. Bacon & Co.:—*Excelsior Charts of Geometrical Figures*, by W. Goodman, in two parts, containing all the usual geometrical figures; *The Dairy*, and *A Fire Scene*, both on rollers, forming very effective diagrams. The *First Grade Frechand Cards*, Standards I. and II.; *Kindergarten Drawing Cards*, and the *Second Grade Frechand Cards*, emanating from the same firm, are excellent in design and admirably printed.

British Forest Trees, and their Sylvicultural Characteristics and Treatment. By John Nisbet, D.Sc. (Macmillan.)—The amount of attention which has been given to forestry in Britain during the last six or seven years, justifies the appearance of this work, embodying the leading principles of sylviculture as applied to the principal species of forest trees. Mr. Nisbet is specially qualified for the task of writing such a book. He has observed the advanced state of the knowledge of forest science in Germany, and has had fifteen years' experience among the teak forests of tropical Burma. His work is, to a considerable extent, a compilation from the best German sources. In it is set forth, shortly and concisely, the chief sylvicultural characteristics of our timber trees. While intended specially for the use of landowners, and of those already engaged in practical forestry, it will certainly stimulate interest in the subject through Britain.

Outlines of Roman History. By H. F. Pelham, M.A., F.S.A. (Percival & Co.)—This book is a reprint, with many additions and alterations, of the article "Roman History," which appeared in the last edition of the "Encyclopædia Britannica." The aim of the writer has been to "give such a sketch of the general course of Roman history as might enable the reader to follow the main lines of movement, and grasp the characteristic features of the different periods." The lion's share of the space—some three-fifths of the whole—has been devoted to the period which extends from the tribunate of the elder Gracchus to the fall of Nero, as being the period which it is most necessary for a student of Roman history to understand, and the one which is most fully illustrated by the extant ancient literature. The book is well annotated at the foot of each page.

A Text-Book of Domestic Economy, adapted for use in Training Colleges, Schools, and Nursing Institutions, and as a Domestic Book of Health. By F. T. Paul. (Longmans.)—This text-book contains the course of lectures given by the author to the students of the Edge Hill Training College, Liverpool. The subject is introduced with a section on physiology, conveying the general conception of the structure and working of the human

body. The next sections, on food and clothing, are more complete; but none of the available space has been taken up with work which can only be properly taught in practical classes, such as the practical details of cooking, dressmaking, and laundry work. Domestic sanitation has been fully treated of under the headings, The Home, Air, Ventilation, Heating, Lighting, Water Supply, and Removal of Waste Matters, and much space has been occupied with a popular consideration of the causes and prevention of disease, home nursing, and first aid in emergencies.

Cap and Gown Comedy: A Schoolmaster's Stories. (A. & C. Black.)—These humorous aspects of a schoolmaster's life are the work of a garrulous pedagogue who has had a not unusual course of experience. They are not altogether new, for we remember having read them in some periodical or other in our youthful days, but they will pass a pleasant hour.

Old-World Scotland: Glimpses of its Modes and Manners. By T. F. Henderson. (T. Fisher Unwin.)—The papers of which this book is composed were originally contributed to the *National Observer*, with the exception of "New Light on the Darnley Murder," which is now printed for the first time. To some, additions have been made, while the paper on "Kirk Discipline" has been widened in scope. They are, without exception, well written, and throw much light on old days in the country of the thistle.

Electricity and Magnetism: A Popular Introduction. By S. R. Bollton. (Whittaker & Co.)—As this is a popular introduction, and is not intended as a text-book, no recondite calculations, and no mere enumerations of all the existing electro-magnetic appliances, are introduced. The object of the author has evidently been to impart exact knowledge in a readable form. In this he has been quite successful, and we feel sure that the tendency of his book will be to awaken the desire for further information.

Technology for Schools: a Class-Room Aid in Technical Education. By Joseph Hassell. (Blackie.)—The lessons in this book partake largely of the nature of object-lessons, and, as such, are no better than the ordinary collections. Part I. is, perhaps, the best. It deals with the elements of commercial education, money, weights and measures, banks, &c. Part II. gives the principles on which are based the arts and crafts of stone, wood, and metal workers. Part III. is for workers in textile fabrics, &c. and for workers in arts requiring some knowledge of the physical sciences. Part IV. deals with the elements of agriculture, and contains lessons on domestic animals and familiar country objects.

Science Teaching in Schools: An Address. By Henry Dyer, M.A., D.Sc. (Blackie.)—This address was given before a meeting of the Glasgow Branch of the Teachers' Guild. It is well thought out and clearly stated. Dr. Dyer evidently hopes for much from the system of organized science schools instituted by the Department of Science and Art. In an appendix are given the London School Board Syllabus of Elementary Science as a class subject, the Leicester School Board Syllabus of Elementary Science, 1892, the curricula of the Evening Classes of the Glasgow and West of Scotland Technical College, and the curricula of certain Continental schools, including the Ecole de Commerce at Lyons, and the Public Mercantile Educational Institute of Leipzig.

Chemistry for All; or, Alternative Elementary Chemistry. By W. Jerome Harrison and R. J. Bailey. (Blackie.)—This book is written principally on the lines of the syllabus or outline course of "Alternative Elementary Chemistry" of the Science and Art Department, and therefore deals with chemistry in the wider view of its connexion with such sciences as electricity, physiology, geology, physiography, botany, &c.

Marci Tulli Ciceronis pro Tito Annio Milone Oratio ad Iudices, with Marginal References, Notes, and Analysis of Text, and Passages for Translation into Latin. By the Rev. W. Yorke Fausset, M.A. (Swan Sonnenschein & Co.)—The notes to this edition contain all that is essential to explain the text without encumbering the pupil with help. The marginal references to standard grammars meet all grammatical difficulties. As regards subject-matter and historical allusions, the former receives a continuous treatment in the introduction, the latter are relegated to an index.

Episodes from François le Champi. By George Sand. Edited, with Notes by C. Sankey, M.A. (Longmans.)—*François le Champi* is a simple and interesting story, put into the mouth of a peasant, and evidently conveying the lesson that the humblest outcast is not to be despised, and that even in the lowest and most unpromising there may lurk possibilities of love and power. Mr. Sankey's notes will prove a helpful addition to a delightful text.

Elementary Geography of British South Africa. By Lionel W. Lyde, M.A. (Percival & Co.)—South Africa has commanded such a deal of interest of late, that we welcome a well-written account of the territory that is not misleading. Cape Colony and Natal have been treated by the author fully and clearly, but the account of the newer territories, Zululand with Tongaland, Bechuanaland, the Crown Colony, the Protectorate, Khama's Country, Matabeleland, and Mashonaland, relying on detailed information that is, of necessity, local and fragmentary, could not be given on the same plan as the older colonies.

Burke's Speeches on America. With Introduction and Notes, by C. E. Vaughan, M.A. (Percival & Co.)—Burke's speeches on American taxation and on conciliation with America, serve admirably as reading studies among an upper class of boys. They are here printed in *extenso*, with short notes and an interesting introduction.

Little Raja's Primer of Indian History. By the Rev. G. U. Pope, M.A., D.D. (Longmans.)—This brief outline of a very vast subject has been

written for all the little boys and girls in India, by one who, years ago, taught a little raja and lived long in his country. Raja is the pet household name for many a bright little scholar. The book is written in simple conversational English, and treats the subject in three parts. In the first ancient times are dealt with; in the second the Afghans, Mughals and Mahrattas; in the third the British Raj.

Mensuration of the Simpler Figures, including the Elements of the Geometry of the Rectilinear Solids. By William Briggs, B.A., LL.B., and T. W. Edmondson, B.A. (W. B. Clive.)—Although intended to meet the requirements of candidates for particular examinations, this book may be used generally with safety. The chief feature in it appears to be the inclusion of proofs of all formulæ presented. It is thus far more than a mere collection of rules and examples.

Notes on English Grammar. By Lionel W. Lyde, M.A. (Methuen & Co.)—These notes are the accumulation in six years of some thirty classes. The plan adopted by the compiler has been to make a note of anything that interested the class more than usual, or which proved more than usually difficult.

An English Grammar for the Higher Grades in Grammar Schools. Adapted from "Essentials of English Grammar," by Wm. D. Whitney. With new arrangement and additional exercises, suitable for younger pupils, by Mrs. Sara G. H. Lockwood. (Ginn & Co.; Edward Arnold.)—The design of this adaptation is to furnish a simple and practical text-book for pupils who are not capable of using with advantage the original work. A new book has, therefore, been made, with topical arrangement, numerous elementary exercises, and a generally simplified treatment.

Dance Drill for Girls. By Herbert T. Lansdown. (O. Neumann & Co.)—In the arrangement of this book due care has been taken by the author that all the drill shall be as enjoyable as possible to the girls, and tend to give that general carriage and bearing according to the laws which govern their nature. The exercises are fully explained, and descriptive plates are appended.

Milton, Paradise Lost, Books I. and II. By A. Wilson Verity, M.A. (Cambridge University Press.)—We have, on several occasions, praised Mr. Verity's work, and can but repeat what we have said before. In his edition of Books I. and II. of *Paradise Lost*, we notice the same characteristics that were apparent in Books XI., XII., and V., VI. His notes are superior to those usually found in small editions of Milton's poetry, and his introduction, of seventy pages, is an elaborate and scholarly piece of work. The level of excellence throughout his treatment of the books of the poem has been so well maintained that we do not hesitate to say that Mr. Wilson Verity has produced the standard school or student's edition of *Paradise Lost*.

Introduction to Shakespeare. By Edward Dowden. (Blackie.)—This *Introduction* originally appeared in the "Henry Irving Shakespeare." The decision of the publishers to issue it in a separate form afforded Dr. Dowden the opportunity of revising it, of adding some paragraphs on the great tragedies, and of compiling a brief notice of the interpretations of Shakespeare by great actors, from Burbage to Macready.

MESSRS. CASSELL & CO.'S NEW EDITIONS.

Messrs. Cassell & Co. opportunely republish a number of their best-known and most successful stories and other books. These are bound and printed in a manner which renders them eminently fitted for prize books. They are varied in subject and in price, so that all tastes and pockets are suited. The most notable scientific republications are, of course, Dr. Ball's *Story of the Heavens* and its companion juvenile volume, *Starland*. In artistic work, Mr. Walter Paget's pictures in *Robinson Crusoe* are notable examples of what book illustration should be, while fiction is worthily represented by the commencement of a series which we hope may prove as successful as the Red Library of Fiction. The series comprises some of the best sensational novels of Mr. Rider Haggard, "Q." and R. Louis Stevenson.

Bashful Fifteen. By L. T. Meade.—The success of this simple story of a girl's life has fully justified the opinions we expressed upon its publication. The book now enters upon its fifth thousand. The new edition is, if anything, more tasteful than ever. The printing is excellent, the illustrations good, and the binding most delicate and tasteful.

(1) *King Solomon's Mines.* By H. Rider Haggard. (2) *Kidnapped.* By Robert Louis Stevenson.—These two works are published uniformly with several others of the same description. The set forms a nucleus of what we might term a "library of modern sensational fiction." The books are published in serviceable plain coloured covers, are well illustrated, and, as indeed are all of Messrs. Cassell's publications, excellently printed in bold and eminently readable type. The price, too (5s.), is more within the reach of the average reader than that of the original editions of Messrs. Haggard and Stevenson's works.

The Story of the Heavens. By Sir Robert Stawell Ball, LL.D.—Professor Ball's fascinating work was reviewed at such length in our columns upon its publication (December 1st, 1885), that it is only necessary to briefly welcome this new edition. The book is popular in tone by reason of its extreme lucidity of illustration, but it is not the less valuable on that account, because the illustrations of laws are bred of a mathematical mind, and worked out with mathematical exactness. In the new edition the author has taken the opportunity of revising the work in accordance with the progress of astronomy during the last four years. The student is fortunate who studies from Professor Ball's book. It has the modern necessary quality—it is "up to date"; but it has another attraction

that is far rarer—a style so fascinating that it asserts a charm which renders its study a positive pleasure. The printing, illustration and get-up of the work are, if possible, an improvement upon the original edition.

Robinson Crusoe. By Daniel Defoe.—The chief interest attached to any new edition of *Robinson Crusoe* is primarily the illustrations which ornament the text, or secondarily the luxuriousness of the printing. The present is an *édition de luxe*. Its get-up and typography are alike perfect. But the main feature of its charm is the hundred and twenty illustrations by Walter Paget. All evince that accuracy of observation, combined with artistic appreciation, which have raised Mr. Paget to a high position as an illustrator of books. Instances of this are too numerous to name in every instance, but we may refer the reader to the picture of the "Walk to Yarmouth" on page 8, where the pose and expression are alike most suggestive; the technical accuracy of the battered figurehead and broken cordage on the wreck; the pretty study of the goats and the dog on page 52; the savage dance by firelight on page 145, the full-page picture of Crusoe and the mutineers on page 195, the wolf pictures on pages 205 and 212, the feasting group on page 292, and the hanging of Jeffrey, page 349. Many of the illustrations are full-page pictures, while others are inset into the text in the fashion which is familiar to us in our modern magazines. All show a versatility and facility which is as delightful as uncommon. What is most pleasing, however, is that the illustrations are a real assistance in the better comprehension of the text.

Around and About Old England. By Clara L. Matcaux.—When a book enters upon its twenty-sixth thousand there can be little doubt of its popularity. The short bright articles on the history and appearance of many places of interest in England are not too full of learning, but are nevertheless well calculated to amuse and instruct young readers.

Wanted a King. By Maggie Brown.—Miss Brown owes much of the success of her story, which now enters upon its sixth edition, to the charming and abundant illustrations from the facile pencil of Mr. Harry Furniss. Of course the authoress has read "Through the Looking-Glass," "Maggie in Mythica," and "Alice in Wonderland," but children can hardly fail to hear with interest "How Merle set the Nursery Rhymes to rights." The pictures have charm which are in no whit inferior, and (especially the various portraits of the heroine) are replete with grace and delicate finish. The book is bound in square covers, is sumptuously printed, and would prove a real prize to any child.

The volume of *Little Folks* comprises a useful miscellany of stories and general information. Songs for little ones are given, as well as particulars of some enticing prize competitions for this year. Puzzles and word games suitable to young understandings find places in its pages. The whole is illustrated with several coloured plates and a goodly number of ordinary cuts.

Marine Painting. By Walter W. May, R.I.—This a collection of sixteen carefully coloured plates from water-colour drawings by the author. Simple instructions are given as to the colouring of the copies, and hints as to the best way of sketching in their outlines. The author has, however, provided a short preface which gives some general ideas on the painting of marine subjects. He advises, among other things, that craft of some sort should always appear in seascapes, and, in answer to the suggestion of the rigging difficulty, advises the artist to make studies of boats of all kinds in every conceivable position. By this means he is sure to find in his sketch-book a suitable vessel for any picture he may paint. "Craft should," he says, "invariably be made to go into a picture or to sail towards the spectator; both these positions give space and distance." Hints are also given as to the direction of the wind and corresponding positions of the sails under various conditions.

Star-Land. By Sir Robert S. Ball, LL.D.—Probably no man has ever done so much to popularize the study of astronomy as the author of this book. He has not confined his attention to men and women, but has aroused an interest in even children's minds, which is sufficiently proved by the fact that *Star-Land* has already passed through sixteen editions, and its charmed readers still ask for more. The seventeenth thousand is produced in a charming guise. The illustrations are plentiful, the printing clear and readable, the binding strong, serviceable, and neat. To those who do not know the book it is only necessary to say that the foundation of it is the lectures delivered to children by Professor Ball at the Royal Institution. The value of the study of astronomy is, perhaps, not sufficiently appreciated. The grandeur of the truths involved, the importance of its laws, its moral aspect as the great teacher of order and method, are facts too lightly estimated. Its purely technical value as a study is no less important. Professor Ball proves by *Star-Land* that it is not of necessity a study that can be pursued only by the matured student, but can be adapted to children, and the perusal of this, followed by "The Story of the Heavens," presents the subject in a most charming and lucid manner.

THE PHILOSOPHY OF EDUCATION.

DURING the past session a course of five lectures on the Philosophy of Education was given, to those members of the Johns Hopkins University who are engaged in teaching or who expect to become teachers, by William T. Harris, LL.D., Commissioner of Education of the United States. The

Commissioner has favoured us with a copy of the lectures, and the following is an abstract.*

LECTURE I.—THE LITERATURE OF EDUCATION.

The first and most important of all educational literature is that showing the ideals of a people—the literature on which they are brought up—generally the sacred books which reveal what the people regard as divine, consequently what is the highest ideal to be realized. China, for example, has Confucius and Mencius, showing the family as the type of the social whole. These writings furnish the contents of the mind of the Chinese—minute observances of etiquette; how to behave towards one's elders and superiors in rank; towards one's inferiors or juniors; towards one's equals. Chinese schools are almost exclusively devoted to filling the memory of the pupil with the ethical maxims of these sacred books, so that the mind shall be full of family etiquette. The aim of Chinese education was to teach the young how to behave; that of the Persians, how to ride, shoot, and speak the truth—a faculty not much thought of by the Hindus. The Persian differs from the Buddhist in that the latter wishes to get rid of the world, while the former attempts to conquer the real. The Phœnicians, again, furnish a contrast to Chinese education. Their object was to wean the child from the family; whereas the Chinese endeavour to educate the young so that they will become submerged in the family. The Phœnicians aimed to create a love of adventure. Their children were educated in myths. The stories in Homer's "Odyssey" must have been derived from the tales of the Phœnician sailors, which were calculated to engender a hunger and thirst for adventure, so that the young Phœnician would gladly get on board ship and go to the ends of the world in the interests of trade. The Greeks were imbued with the new world-principle of a spiritual and beautiful individuality. They thought more of the games which they practised in the evenings on the village green than of the tasks by which they earned their bread. They learned history and geography from the second book of Homer's "Iliad." They thought not of commercial education, like the Phœnicians, but of that heroic individual who furnished a beautiful ideal. Later on Greek education became more scientific and more reflective. The Roman concentrated his whole mind on the will. He went beyond the circle of his city, and studied to cause even foreigners to live under the same laws with himself. Freedom meant more to him than to any of the Asiatic nations. It meant the power of the individual to hold, alienate, and devise property. This was an enormous step upward in educational progress. Hitherto, property could only be held by the family. Contract is the supreme idea of the Roman. He even carries it into his religion. Thus he prays to one of his deities to help him in some extremity or to give him his desire, and he promises, in turn, to build the god a temple. The Roman wants to conquer all peoples and to make them free under the law. But the greatest educational lesson is derived from the Hebrew people. They teach the personality of the Divine apart from Nature. This Divine Person creates Nature in order that He shall have something to recognise Him. The Divine Being does not efface man simply, but is the embodiment of goodness and righteousness—the righteousness that breathes the spirit of loving-kindness, holding his creatures responsible, only in so far as they know the right, and returning their deeds upon them. Art education ranked first in the Greek mind, for he worshipped the beautiful. Then came science and philosophy. From the Greeks we get these elements of our educational curriculum. From the Romans we get the principle of organization. Whether or not a person is educated reflectingly into civilization, he finds himself in the great network of usages that go to make up civilization. Education is meant to give one an insight into the genesis of these things, so that he can detect an element of each in the threads of civilization. Ninety-nine out of a hundred people in every civilized nation are automata, careful to walk in the prescribed paths, careful to follow prescribed custom. This is the result of substantial education, which, scientifically defined, is the subsumption of the individual under his species. The other educational principle is the emancipation from this subsumption. This is subordinate, and yet, in our time, we lay more stress upon it than the other. Look at the French Revolution. What a prodigious emancipation that was. It was predicted by Rousseau; but those who read him only superficially, without first studying his genesis, will find that their minds are poisoned by his doctrine of the supremacy of nature. Comenius

taught the emancipation of the individual from the printed page. Spencer says that the modern school system is all wrong, and has a tendency to get away from science and cause students to waste time over the dead languages. Emancipation has now become the important side of the educational question. But the student of advanced education must first avail himself of the wisdom of the race, and learn how not to be limited by it. He cannot progress unless he is a free man, for he must not be so much subsumed that he cannot investigate scientifically, and with safety to himself, all problems that present themselves.

LECTURE II.—PROBLEMS PECULIAR TO AMERICAN EDUCATION.

There are two kinds of education. The first may be called substantial education—the education by means of the memory; the education which gives to the individual methods and habits and the fundamentals of knowledge. It is this education which the child begins to receive from its birth. This sort of education is education by authority—that is, the individual accepts the authority of the teacher for the truth of what he is told, and does not question it or seek to obtain insight into the reason for its being so. It is this education by authority—the education of the past—that the modern or second kind of education seeks to supersede. This second kind may be called individual or scientific education; it is the education of insight as opposed to that of authority. When this kind of education is acquired, it frees the individual from the authority of the other. Under the system of education by authority, when told, for instance, that the sum of three angles of a triangle is equal to two right angles, this will be blindly believed only as long as authority sanctions this belief; but when an insight into the reason for this geometrical truth is obtained, no change of authority is able to make the individual doubt. But there is this danger in the system of education by insight, if begun too early, that the individual tends to become so self-conceited with what he considers knowledge gotten by his own personal thought and research, that he drifts toward empty agnosticism with the casting overboard of all authority. It is therefore necessary that this excessive conceit of self which this modern scientific method of education fosters, be lessened by building on the safe foundations of what has been described as the education of authority. The problems of the reform movement centre, therefore, on the proper method of replacing this authoritative or passive method of education by education through self-activity.

There is another problem—that of the method of study. Germany advises us to teach by oral methods, by giving pieces of information and insight orally by word of mouth. But the American educators have blundered upon what may be defended as the correct method, namely, the text-book method. It was merely the outcome of an unconscious trend. The method is of course liable to very serious abuse, but the good points greatly outweigh the bad. It has the advantage of making one independent of his teacher; you can take your book wherever you please. You cannot do that with the great lecturer, neither can you question him as you can the book, nor can you select the time for hearing the great teacher talk as you can for reading the book; and it is true that nearly all the great teachers have embodied their ideas in books. The greatest danger of text-book education is verbatim parrot-like recitation; but even then from the poorest text-book a great deal of knowledge can be gleaned. Then there is the alertness which in any large class will necessarily be engendered by an intelligent understanding and criticism of the results arrived at by different pupils in discussing a certain piece of work given in his own words. And then there is the advantage to be found in the fact that with the text-book the child can be busy by itself. Lastly, there is the problem of discipline. There should be very little corporal punishment; the milder forms of restraint should be used. The child that is brought up accustomed to the rod loses his self-respect and may become the man who must have police surveillance. Silence, punctuality, regularity, and industry are fundamental parts of a "substantial education" as much as the critical study of mathematics, literature, science, and history is a part of the "education of insight." These two kinds of education, that of authority and that of self-activity, should be made complementary.

LECTURE III.—OPPOSITION BETWEEN PESTALOZZI AND HERBERT AS EDUCATIONAL LEADERS.

Pestalozzi laid great stress on sense-perception as the foundation of all school education. Herbart lays stress on the elaboration of sense-perception, or rather upon the mental reaction against the impressions made on our senses. Thought goes back of the object to understand and explain its origin, how it came to be what it is, what purpose it is to serve. Thought sees objects in the perspective of their history. It studies causes and purposes. Thus thought is not, as the disciples of Pestalozzi hold, a continued and elevated sort of sense-perception, but rather a reaction against it. It is a discovery of the subordinate place held by objects in the world; they are seen to be mere steps in the process of manifestation—the manifestation of causal energies. A new perception is received into the mind by adjusting it to our previous knowledge; we explain it in terms of the old; we classify it, identify it; reconcile what is strange and unfamiliar in it with previous experience; we interpret the object and comprehend it; we translate the unknown into the known. This process of adjusting, explaining, classifying, identifying, reconciling, interpreting, and translating, is called *apperception*. We must not only perceive, but we must apperceive; not only see and hear, but digest or assimilate what we hear and see. Herbart's

* The following list of books is suggested as useful for reference in connexion with the course:—

1. Rosenkranz: *Paedagogik als System* (English Translation, D. Appleton & Co., New York). Third part, treating of the substantial contents of the national education—its sacred books, and the idea that the nation stands for in the history of the world. (Lecture 1.)
2. Karl Schmidt: *Geschichte der Paedagogik*; gives a much fuller statement of the details of the culture-systems of the several nations. (Lecture 1.)
3. R. H. Quick: *Educational Reformers*. (Lectures 2, 3, 4, and 5.)
4. Pestalozzi: *Lienhard und Gertrud*. (English Translation, Boston.) (Lecture 3.)
5. Herbart: *Lehrbuch zur Psychologie*. (English Translation, New York.) (Lecture 3.)
6. Rousseau: *Emile*. (Lecture 4.)
7. Herbert Spencer: *Essay on Education*. (Lecture 5.)

"apperception" is far more important for education than Pestalozzi's "perception." At first the memory was the chief faculty cultivated in education; then Pestalozzi reformed it by making the culture of sense-perception the chief aim; now with Herbart the chief aim would be apperception or the mental digestion of what is received by perception or memory. Illustrations of the power of apperception to strengthen perception: Cuvier could reconstruct the entire skeleton from a single bone; Agassiz the entire fish from one of its scales; Winckelman the entire statue from a fragment of the face; Lyell could see its history in a pebble; Asa Gray the history of a tree by a glance. Apperception adds to the perceived object its process of becoming. Noiré has illustrated apperception by showing the two series of ideas called up by the perception of a piece of bread. First the regressive series—dough, flour, rye; and the processes—baking, kneading, grinding, threshing, harvesting, planting, &c. Each one of these has collateral series, as for example, planting has ploughing, plough, oxen, yoke, furrow, harrowing, sowing seeds, covering it, &c. The second series is progressive—bread suggests its uses and functions; food, eating, digesting, organic tissue, life, nourishing strength, supply of heat, bodily labour, &c. The course of study in schools must be arranged so as to prepare the mind for quick apperception of what is studied. The Pestalozzian makes form, number, and language the elements of all knowledge. He unfortunately omits causal ideas, which are the chief factors of apperception; we build our series on causality. Accidental association satisfies only the simple-minded and empty-headed.

LECTURE IV.—ROUSSEAU, AND THE RETURN TO NATURE. REVOLUTIONARY PROTEST.

The time of Louis XIV.: the nobles attracted to Court and to a life of gaiety, neglecting their estates and wasting the fruits of toil in riotous living; the labourers, deprived of the advantage of the directive power of the nobility, fail in power of production. The French Revolution is the result. Rousseau its prophet; he proclaims a return to nature. "Nature," a word of ambiguous meaning; human nature versus physical nature; human history the revelation of man's nature; it is realized in institutions and not by man as an isolated individual. Nature in time and space is under the dominion of necessity, everything constrained to be what it is by outside forces. Human nature is an ideal, and when realized it has the form of freedom and self-determination, each man a law unto himself, and each one engaged in helping every other one, for by this each one helps himself. Rousseau appealed to nature in everything. What we call civilization was to him a mere artificial form. His plea was to be natural, come back to the point where nature leaves you. Rousseau came from Switzerland to France, and at an opportune time for him; for there was a great ferment of ideas at this epoch. He was struggling along in Paris, barely securing a livelihood, when there came the offer from the Academy of Dijon of a prize for an essay on the progress of the arts and sciences—whether it has tended towards the purification of morals and manners. The negative side suggested itself more forcibly to him, as he was better fitted for it by his mode of living and morals, and by his literary style, and he found himself at once a "censor of civilization." This essay was soon followed (1752) by one on the origin of the inequality among men. The great tension produced by the artificiality of the civilization of the Court life of the time had caused men to become anxious to get back to a simplicity of living, and Chateaubriand painted the charms of the forest life of the Indians. In this reaction the meaning of civilization is ignored. Man emancipates himself from drudgery and compels nature by the forces of his intellect to feed and clothe him. The "Social Contract" followed (1762) this, with an attack on the authority of the State; and in the same year his "Emile" undermined the School and the Church; and so he attacked all the social institutions one after another—the family, civil society, the Church and State. He proposed to sweep all away by summoning them before the bar of his individual judgment and condemning all. In the opening paragraph of his *Emile*, he declares that everything which comes from nature is good, while everything degenerates in the hands of man. The antithesis of civilization is savagery; and Voltaire wittily exposed the fallacy of Rousseau's teaching in his letter accepting the book. He said: "Never has anyone employed so much genius to make us into beasts. When one reads your book he is seized at once with a desire to go down on all fours." External authority is a perennial necessity for man in his immaturity. An appeal to nature is always a piece of jugglery with words. In mere nature we have matter and force. Everything inorganic is made by some external influence. But organic nature is the opposite of inorganic. The plant has the power of assimilation, and the animal the further powers of locomotion and feeling, or ability to select or choose its surroundings. In man this is still further increased by recollection and memory, by which the mind makes over its impressions. To do his duty properly he must look to higher things, and in ethical ideas the human becomes transcendental. The moral man acts as though the sole being in the world is humanity. No natural instinct is admitted as having validity against the moral law. If we adopt the doctrines of material nature and yield to our feelings and impulses, we remain animals. But if we take nature in the sense of our ideal divine possibility, and realize it by education, we attain to human nature properly so called, which is not something given us without effort, but only the product of culture.

LECTURE V.—HERBERT SPENCER, AND WHAT KNOWLEDGE IS OF MOST WORTH.

In Herbert Spencer, the return to nature means the study of natural science, and this becomes the great thing. But natural science is only the instrument with which we conquer nature. Everybody becomes filled with the idea of progress by it, for we see that nature as it is, existing in time and space, is conquered by inventions and made to serve man. There was never a more unscientific book made than Spencer's "Essay on Education"; for while he praises science, he does not apply it to a study of education as it is and has been. To do this he ought to study the genesis of the course of study and explain its functions. The unscientific person takes things as they are, and cares not for their origin. To study things from a scientific standpoint means to take an inventory of them—to find the process in which they are being produced; to connect them with other things; to see things in their causal process. He does not understand the system of education as it exists, because he does not know the educational value of its branches. The education he proposes for us is for the purpose of complete living; but what is Spencer's definition of this complete living? Spencer does not take education as the genesis of man's spiritual life, but merely as something useful for showing how to care for the body and perform the lower social functions, as the tool of life, the instrument by which life is preserved. Now suppose the definition of complete living to be, to elevate each individual so that he can take advantage of the life and experience of his race. Then he would find complete living to involve the initiation into the civilizations of the past that furnish the elements out of which our own civilization is formed. Spencer thinks that the first business of the child is to know physiology; the next is the selection of a vocation or trade, which leads to training for citizenship; and last of all he puts relaxation and amusement, in which he includes literature and art. Now, Aristotle characterized man as the symbol-making animal. Human nature has to be expressed by symbols. The poets of a people first paint the ideal, which makes civilization possible. Literature furnishes the most essential branch of education, so far as its function is to help the child into civilization. Man sits in the theatre of the world (as Plato tells us) and sees the shadows of men and events thrown on the curtain before him. Behind him and out of his sight is the Great Leader, who is making these shadows. From them he draws his ideals; but ideals are potentialities, not realities. Self-activity, the freedom of the soul, is made possible by the institutions of society, the family, civil society, the State, and Church. We must not confound the mere school with these other great institutions of civilization. In the family are learned the mother-tongue, habits, and nurture. Civil society teaches him his vocation; the State, his duties as citizen; and the Church shows him his place in the divine plan of the universe. Spencer calls education the subject which involves all other subjects, and the one in which they should all culminate. But some one has better said that school education is the giving to man the possession of the instrumentalities of intelligence. By his school education he does not attain all education, but he gets the tools of thought by which to master the wisdom of the race. There are, then, three epochs of school education—elementary, secondary, and higher. The first or elementary stage is the opening of the five windows of the soul. (1) Arithmetic is the foundation of our knowledge of nature, by which we measure and count all things inorganic. When its first principles are mastered the child begins to want to combine the organic with the inorganic, and then we come to another window (2), that of elementary geography. The distribution of animal and plant life is learned, and the child begins to peep into the organization of things, the growth of plants, and the formation of the continents and the earth. Thirdly, he learns to read and write, and gets a glimpse into literature. The original colloquial vocabulary learned at home, variously estimated at from 300 or 400 to 3000 or 4000 words, deals only with commonplace things. But the school takes this colloquial vocabulary as a key and opens up the great reservoir of literature in books, initiating him into a higher class of words, expressive of fine shades of feeling and thought. Thus, to his own vocabulary are added those of great writers, who have seen nature from a different point of view, and presented their thoughts in gems of literary style. Literature lifts up the pupil into the realms of human nature and discloses the motives, which govern the actions of men. Yet Spencer puts this last in his course of study. After learning all science has to give, after learning one's trade and the care of his body, he would then, if there is leisure, permit literature and art. But literature is the greatest educator we have. It has made possible newspapers and periodicals and books, with pictures of human life and of the motives governing our actions. The fourth window of the soul is grammar, wherein we have a glimpse of the logical structure of the intellect as revealed in language. The fifth window is history (that of his own country), wherein he sees revealed the aspirations of his countrymen, his own nature, written out in colossal letters; and these five studies should make the elementary education of the student. The secondary education takes up human learning and continues it along the same lines, namely: 1, inorganic nature; 2, organic nature; 3, literature (the heart); 4, grammar and logic (the intellect) and 5, history (the will). Algebra deals with general numbers, while arithmetic has definite numbers to operate with. Geometry and physics continue inorganic nature, while natural history continues the study already commenced in geography. Then come Greek and Latin, and here is opened up a great field of study into the embryology of our civilization. In the

dead languages we have the three great threads running through the history of human progress. The Greek, with its literature and æsthetic art and its philosophy, showing the higher forms of human freedom in contrast with the Egyptian, which showed only the struggle for freedom and never the man separated from the animal and the inorganic world. The Roman, with the continual gaze upon the will of man, seeks the true forms of contracts and treaties and corporations, whereby one man may combine with another, and it essays the conquering of men and reducing them to obedience to civil law, not only external conquest but internal conquest as well. The Hebrew thread is the religious one, which we recognise in the celebration of worship one day each week and in the various holy days. We acknowledge this the most essential thread of our civilization. So, with the secondary education we begin to get the embryology of our forms of life. The higher or collegiate education is the comparative step of education. Each branch is studied in the light of all the others. Natural science and sociology are investigated; logic and mental philosophy; ethics and rhetoric; as well as the philosophy of history and of literature, and the comparative sciences, which furnish the light for the whole method of higher education. The first, or elementary education, then, is but superficial, a mere inventory; the secondary insists on some reflection on what has been learned; and the third, or higher education, is the unity and comparison of all that has been learned, so that each is explained by the whole. Give the child possession of the embryology of civilization, and his insight into the evolution of civilization is insured. Educators have adopted the course of study as it exists, led by an unconscious or blind impulse. Herbert Spencer should have investigated and discovered its purpose, which is a far deeper one than he has thought out when he advocates its overthrow for the sake of knowledge that leads to direct self-preservation.

THE SHELLEY MEMORIAL AT OXFORD.

THE Memorial to the poet Shelley has been presented to University College, Oxford, by Lady Shelley. It is the work of Mr. Onslow Ford, and a cast of the monument was exhibited at the Royal Academy last year. The work consists of a figure in white marble of the poet, as he may be supposed to have lain when washed up by the sea, lying on a bronze pedestal supported by lions, between which is seated a figure of the Muse of Poetry. The memorial was intended to be placed over the grave of the poet in Rome, but the idea was abandoned on account of certain difficulties, and it was thought that University College, of which Shelley was a member, would be the proper place for it. Amongst those present at the opening ceremony were Lady Shelley, the Bishop of Southwark, the Master of University (Dr. Bright), the Master of Balliol, and others. Having handed a gold key of the chamber to Dr. Bright, Lady Shelley said she begged to thank the Master and Fellows of University College, and the distinguished artist who had designed the memorial, for enabling her to fulfil one of the dearest wishes of her heart. For more than forty years she had been a student of Shelley, and so far as she was able had striven to give the world a just impression of his character. She had lived in the companionship of his noble-minded wife and of his son, and she had been acquainted with most of his friends, none of whom, she believed, were now survivors. They were much mistaken who fancied that Shelley and Mary were regardless of the duties of life. Men of great genius could not always be reduced to rule. They erred sometimes, but they were not, therefore, to be deprived of the love and admiration of their countrymen. The Master of University, in accepting the gift, said that it was not often that a college in Oxford had a modern work of art given to it. The reason of that was, that there was a sort of erroneous fancy that Oxford belonged completely to the old. There could not be a greater error. He could not conceive any more true emblem of the present century than the great poet whose effigy they had now received. For if they came to think of what really happened to him, he thought it was this—that he was prophetic in all directions of what was to come to the world. The gift of the memorial was a sort of emblem and symbol to them of a rubbing out of old ill-wills and old ill-feelings, and of a perfectly peaceful feeling towards that great man. He did not think they ought to judge of their predecessors very harshly, or to say that the action of the college was very extraordinarily wrong, for he believed that there was hardly any place in Oxford which would not have acted in the same way as University College acted. But what they had to observe was this—that the very greatness of the man had rendered him open to that sort of treatment. It was because there was in him such a wellspring of hatred of all that was false and oppressive, and because he had such a strong feeling of all that was gloomy and sad in the history of the world and mankind, that he could not but become a rebel; and, being a rebel, he was treated as a rebel. But the rebel of 80 years ago was the hero of the present century. In other words, the great aspirations which he had, the intense love of the human race which he had, the intense admiration of all objects that met his eyes in the natural world, the intense hatred of all that was evil and all that was sad, what was it but the very thing they had been learning for these last 80 years? and when at this time they had constant repetitions of very sad and pessimist sort of views as to what the world was going to become, it was very cheerful to come across a prophet who prophesied good things and not bad. Although it probably was true that the great giant lay still chained upon the hill-tops, and although

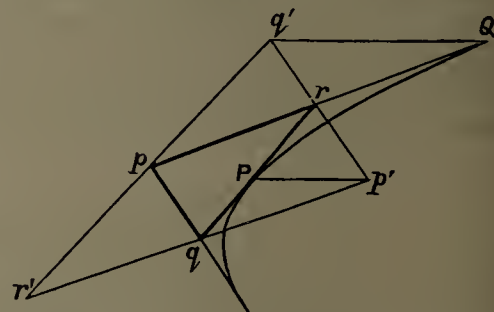
Jupiter, the emblem of what was false and conventional, still in some degree reigned, it must be confessed that the prophecies he uttered had been hastening towards their fulfilment, and that in some way or other—though it might not be as he fancied it—the human race was coming, as they all hoped, to something like a condition of happiness in universal and divine equality and love.

MATHEMATICS.

11918. (J. GRIFFITHS, M.A.)—Through each angular point of any triangle circumscribing a parabola a line is drawn parallel to the opposite side; prove that the new triangle formed by these three lines is self-conjugate with respect to the parabola. Hence show that the nine-point circle of any triangle self-conjugate with respect to a parabola passes through the focus, and that the centre of its circumscribing circle lies on the directrix.

Solution by Rev. J. J. MILNE, M.A.; H. W. CURJEL, B.A.; and others.

Let pqr be the tangent triangle, $p'q'r'$ the triangle formed by the parallels. Since $qprp'$, $qpq'r'$ are parallelograms, r is the mid-point of $p'q'$, and so for p and q . Join Pp' . Then by *Parabola* (MILNE and DAVIS), Art. 33, Pp' is a diameter, and by Art. 36, $q'r'$ is the polar of p' . Similarly Qq' is a diameter, and $p'r'$ is the polar of q' . Therefore $p'q'r'$ is self-conjugate with respect to the parabola.



[The rest in Volume.]

5517. (H. POLLEXFEN, B.A.)—An ellipse is placed with its major axis vertical; find the semi-diameter of quickest descent, and the condition that it may be the major axis.

Solution by H. J. WOODALL, A.R.C.S.

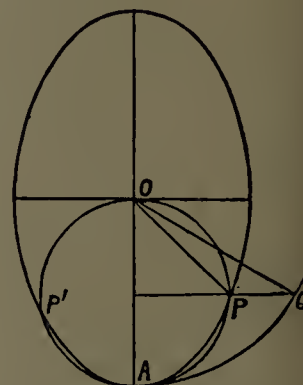
Draw the circle with the lower part (OA) of the semi-major axis of the ellipse as diameter. This circle will touch at A, and if it cuts the ellipse, will cut the ellipse at two points P, P', equidistant from O. Join OP, then OP will be the semi-diameter of quickest descent. Let the point Q (on the auxiliary circle) correspond to P. Let

$$\angle AOP = \theta, \quad AOQ = \phi, \quad OA = a.$$

Since P is on the ellipse

$$OP^2 = a^2 \cos^2 \phi + b^2 \sin^2 \phi = a^2 \cos^2 \theta.$$

[The rest in Volume.]



4058. (A. RENSHAW.)—Let ACB be a right-angled triangle, and CP the perpendicular on AB . Then, if circles be drawn on the three sides, and a tangent to that on AB be drawn through C , cutting the other two circles in E and F , prove (1) that CE shall be equal to CF ; and (2) that the line FCE shall divide the exterior semicircles on AC , CB into four segments, the sum of the alternate pairs of which shall be respectively equal to the segments of the semicircle on AB made by AC , CB ; also (3) deduce other properties of the figure.

Solution by H. J. WOODALL, A.R.C.S.

Let O, O_1, O_2 be mid-points of AB, AC, BC respectively.

(1) Because E is on circle drawn on AC as diameter. Therefore $\angle AEC = \text{right angle} = \angle CFB = \angle ECO$ (because EC tangential to circle AB at C). But $AO = OB$, and therefore $EC = CF$.

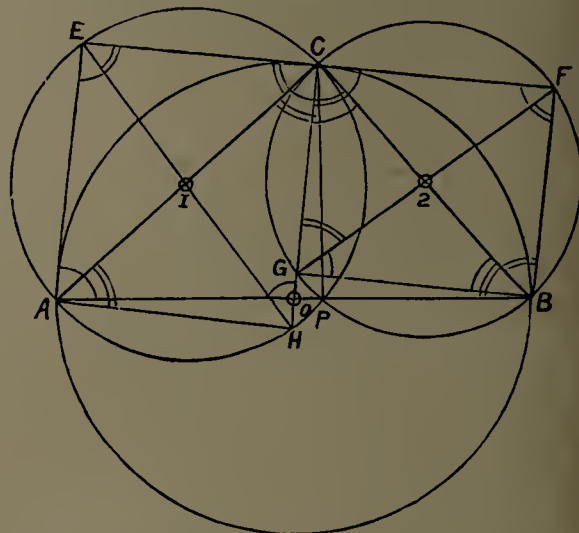
(2) Segment on $AE = \text{multiple of } AO_1^2 \times \angle AO_1E = K_1 \times AO_1^2 \times \angle AO_1E$. So segments an EC, CF, FB are

$$K_2 \times AO_1^2 \times \angle EO_1C,$$

$$K_1 \times CO_2^2 \times \angle CO_2F,$$

$$\text{and } K_2 \times CO_2^2 \times \angle FO_2B.$$

[The rest in Volume.]



650. (J. WILLIAMS, M.A.)—In the base AB of a triangle find geome-

trically a point P, such that by joining it with two given points Q, R by right lines intersecting the other two sides AC, CB, at m and n, the figure AmnB shall be a minimum.

Solution by D. BIDDLE.

The above question can best be answered by considering first the position of P when AmnB is a maximum. This requires that the triangle Cmn should be a minimum, which occurs when Cm.Cn is least; and this, when

$$Cm \cdot Cn = (Cm + dx)(Cn - k \cdot dx),$$

where $k = Cn/Cm$;

that is to say, when the infinitesimal increment and decrement are as the respective distances from C. Draw QS, RT parallel to AB; also QQ', RR' parallel to AC, CB, meeting AB produced in Q', R'. If we now regard P when in the required position (for the reverse of the question), and also when moved along AB through an infinitesimal distance, we obtain the following equation:—

$$Qm/QP \cdot Am/AP : Rn/RP \cdot Bn/BP$$

$$= Cm : Cn \dots\dots (a);$$

the terms on the left being proportionate to the infinitesimal movements of m and n in AC and CB respectively, for all positions of P in AB. But

$$Qm'/QP' = QS/Q'P';$$

$$Am'/AP' = AS/Q'P';$$

$$Rn'/RP' = RT/R'P';$$

$$Bn'/BP' = BT/R'P'.$$

[The rest in Volume.]

10446. (Professor NRITYA GOPAL SARKAR.)—Two florins with smooth rims are placed in the corner between two smooth vertical planks. A sixpenny-piece can be pressed between these coins without causing them to separate. Find the angle between the vertical planks.

Solution by H. J. WOODALL, A.R.C.S.

Let the figure represent a horizontal section through point of contact of florins (F, F'). Let P, P' be the "planks," S the sixpence.

Let the angle be 2θ , $2a$ = thickness of sixpence, breadth = b , c = thickness of florin;

then $AC = a \cot \theta + b + a \tan \theta = c \operatorname{cosec} \theta$;

$$\therefore a + b \sin \theta \cos \theta = c \cos \theta.$$

[The rest in Volume.]

11628. (Professor DESPREZ.)—Les côtés de l'angle A d'un triangle ABC sont fixes; le côté BC roule sur une courbe donnée Δ . Démontrer que l'orthocentre H du triangle ABC, et le centre O du cercle circonscrit, décrivent deux figures symétriquement semblables.

Solution by H. W. CURJEL, B.A.

Let x_1, y_1, x_2, y_2 be the coordinates of H and O referred to AB, AC as axes of x and y . Let $\angle BAC = \omega$. Let $AC = b$, $AB = c$; then

$$x_1 = \frac{\cos \omega}{1 - \cos^2 \omega} (b - c \cos \omega),$$

$$y_1 = \frac{\cos \omega}{1 - \cos^2 \omega} (c - b \cos \omega),$$

$$x_2 = \frac{1}{2} y_1 \sec \omega, \quad y_2 = \frac{1}{2} x_1 \sec \omega.$$

Now, if BC envelopes a given curve, we have an equation $f(b, c) = 0$ connecting b and c ; hence H and O will describe two curves, symmetrically similar, since

$$x_2 = \frac{1}{2} y_1 \sec \omega, \quad y_2 = \frac{1}{2} x_1 \sec \omega.$$

11874. (S. TEBAY.)—If three of the numbers 1, 2, 3, ... n be taken at random, find the probability that every two of them shall be greater than the third; and show that, if n be indefinitely large, the chance ultimately approaches the limit $\frac{2}{3}$.

Solution by the PROPOSER.

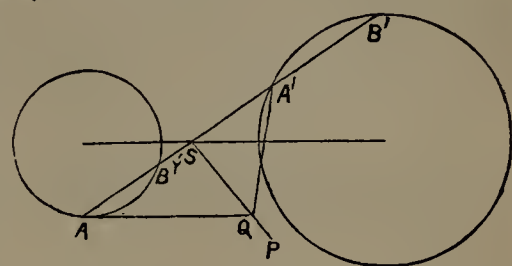
Let x, y, z be three of the numbers taken in order. It is only necessary to consider the cases in which $x + y > z$. As a limit, take $x + y - 1 = z$. We thus see that between y and z there are generally $x - 1$ numbers, each of which furnishes $x - 1$ cases. The least of these numbers is $n - x + 1$;

and between x and $n - x + 1$ there are $n - 2x + 1$ numbers, each furnishing $x - 1$ favourable cases, or $(x - 1)(n - 2x + 1)$ in all. [The rest in Volume.]

11467. (Madame F. PRIME.)—Une droite Δ , passant par le centre de similitude interne S de deux circonférences C et C', est coupée respectivement par ces deux circonférences aux quatre points A, B, A', B', que l'on prend comme centres de quatre circonférences ayant S pour point commun. La tangente commune extérieure DD' aux deux circonférences A, A' rencontre la tangente commune extérieure EE' aux deux circonférences B, B', en un point M, dont on demande le lieu lorsque la sécante Δ varie.

Solution by J. H. GRACE.

Through S draw a line SP perpendicular to Δ . Then, if the common tangent to A, A' meet SP in Q, it is evident that $\angle AQA'$ is a right angle; therefore $SQ^2 = AS \cdot SA'$, and, since $AS \cdot SA' = BS \cdot SB'$, the external common tangent to B, B' (which is on the same side of Δ) must pass through Q, or Q is the point of which the locus is sought. Now $SQ^2 = AS \cdot SA'$, which is constant for all positions of Δ ; therefore SQ is constant, and the locus of Q is a circle having S for centre.



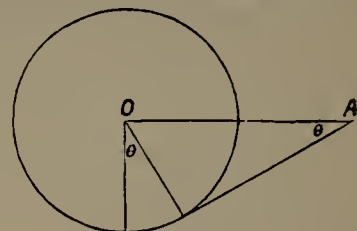
11853. (Professor CLIFFORD, F.R.S.)—Three elastic strings without weight, whose natural lengths are OA, OB, OC, are joined together at O, the centre of the circumscribing circle of the horizontal triangle ABC; and a smooth sphere of given radius and weight is placed with its centre vertically above O, and allowed to descend until the centre rests at O. Find the moduli of elasticity in the three strings.

Solution by H. W. CURJEL, B.A.; W. J. DOBBS, B.A.; and others.

Let T_a, T_b, T_c be the tensions of the strings, W = the weight of the sphere, r its radius, R the radius of circle ABC.

Let $\theta = \sin^{-1} r/R$; then

$$\begin{aligned} \frac{T_a}{\sin 2A} &= \frac{T_b}{\sin 2B} = \frac{T_c}{\sin 2C} \\ &= \frac{(T_a + T_b + T_c) \sin \theta}{\sin \theta \sin 2A} \\ &= \frac{W}{\sin \theta \sin 2A} = \frac{WR}{r \sin 2A}. \end{aligned}$$



[The rest in Volume.]

6379. (Professor TANNER, M.A.)—If $S_n = \frac{1}{m} + \frac{1}{m-1} + \dots + \frac{1}{m-n+1}$, find the value of n such that (m being not necessarily integral)

$$S_n < 1 < S_{n+1} \text{ or } S_{n+1} = 1.$$

Solution by H. J. WOODALL, A.R.C.S.

If we put

$$u_x = \frac{1}{x} + \frac{1}{x-1} + \dots + \frac{1}{x-n+1},$$

then $S_n = u_m - u_{m-n} = C + \log m + \frac{1}{2m} - \frac{1}{12m^2} + \frac{1}{120m^4} - \dots$

$$\begin{aligned} &- \left\{ C + \log(m-n) + \frac{1}{2(m-n)} - \frac{1}{12(m-n)^2} + \frac{1}{120(m-n)^4} - \dots \right\} \\ &= \log \frac{m}{m-n} + \frac{1}{2} \left(\frac{1}{m} - \frac{1}{m-n} \right) + \frac{1}{12} \left(\frac{1}{(m-n)^2} - \frac{1}{m^2} \right) - \frac{1}{120} \left(\frac{1}{(m-n)^4} - \frac{1}{m^4} \right) \\ &= y, \text{ where } y \text{ is equal to or less than } 1. \end{aligned}$$

[The rest in Volume.]

11867. (Professor CESARO.)—Les parallèles menées par un point de l'ellipse de Steiner aux médianes du triangle rencontrent les côtés opposés sur une droite. Etudier l'enveloppe de cette droite, lorsque le point se déplace sur l'ellipse.

Solution by Professors DROZ FARNY, BHATTACHARYA, and others.

Considérons un triangle équilatéral inscrit dans une circonférence. Les parallèles aux médianes de ce triangle par un point quelconque P de la circonférence coupent les côtés opposés en trois points situés sur la ligne de Simson du point P. L'enveloppe de cette droite est l'hypocycloïde de Steiner. Projétons la figure orthogonalement sur un plan; le triangle devient quelconque, la circonférence devient l'ellipse de Steiner, et la courbe demandée est une quartique, projection orthogonale d'une hypocycloïde de Steiner.

7937. (By HUGH MCCOLL, B.A.)—Several areas are scattered anyhow on a plane. From any point C in this plane a straight line is drawn at random, meeting the boundaries of one or more of these areas, each at the point P. Show that the average area of the circle whose radius is CP is equal to the sum of the several areas, the circle to be taken positively

when P is a point of exit, negatively when P is an entrance point, and zero when there is no P , in other words, when the random line meets no boundary.

Solution by H. W. CURJEL, B.A.

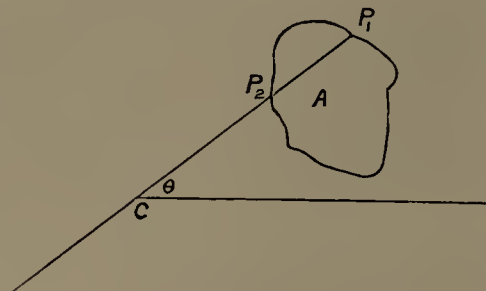
Let one of the straight lines CP meet one of the areas A in P_1P_2 , P_2 being an entrance point, and P_1 an exit point. Let $CP_1 = r_1$, $CP_2 = r_2$.

Then mean value

$$= \int \pi \left(\frac{r_1^2 - r_2^2}{2} \right) d\theta / \int_0^\pi d\theta,$$

the integral being taken over all the area A .

$$= \pi \Sigma A / \pi = \Sigma A = \text{sum of the several areas.}$$



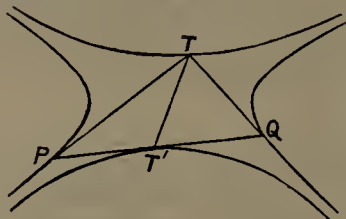
11877. (Rev. T. ROACH, M.A.)—Tangents are drawn to a hyperbola from any point T on the conjugate, and a chord is drawn through the centre parallel to the tangent at T ; prove that the chord bisects the tangents.

Solution by W. J. DOBBS, M.A.; Professor ZERR; and others.

Let TP , TQ be the tangents, T' the other extremity of the diameter through T .

By a well-known theorem, the polar of T with respect to the original hyperbola is the tangent at T' ; i.e., PQ is the tangent at T' .

Therefore, &c.

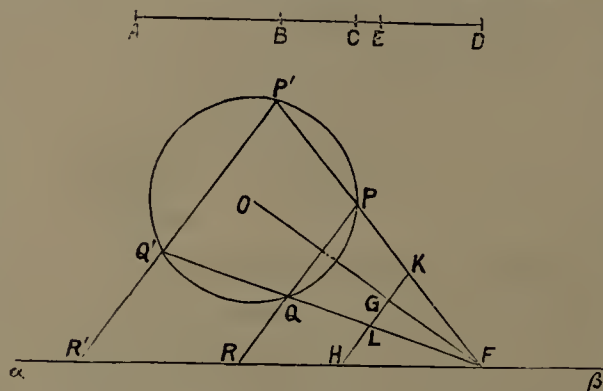


11841. (MORGAN BRIERLEY.)—A circle is given in magnitude and position; also a straight line is given in position; it is required to draw a chord in the circle, which, produced, shall meet the straight line at a given angle, at a point to be determined, so that the part of the chord line produced shall have a given ratio to a tangent drawn to the circle from the same point.

Solution by W. J. DOBBS, B.A.; Professor ZERR, M.A.; and others.

Let O be the centre of the given circle, ab the given straight line, and $AB : AC$ the given ratio. Take AD , third proportional to AB , AC , and bisect BD in E . From O draw OF perpendicular to ab in F , and from any point G in OF draw GH parallel to given direction to meet ab in H . Divide HG in K , L , externally and internally, in same ratio that AE is divided in D , B . Produce FK , FL to meet circle in PP' , QQ' .

Then either of chords PQR , $P'Q'R'$ is the chord required. For $RQ : RP = AB : AD$; $\therefore RQ : \text{tangent from } R = AB : AC$.



1668. (W. J. GREENSTREET, M.A.)—Find the diameter of the circumcircle of a triangle ABC , whose vertices lie on three parallel lines, distance m and n apart.

Solution by Madame THÉRÈSE; Professor ZERR; and others.

Let $AM = m$, $CN = n$,

$$\angle BCG = \theta;$$

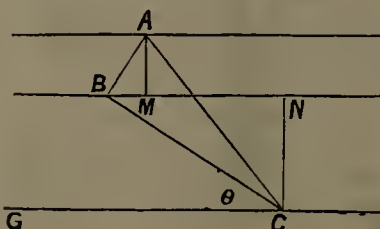
then $AB = m \operatorname{cosec} (B - \theta)$,

$$BC = n \operatorname{cosec} \theta;$$

$$\frac{AB}{BC} = \frac{\sin C}{\sin A} = \frac{m \operatorname{cosec} (B - \theta)}{n \operatorname{cosec} \theta};$$

$$\therefore \tan \theta = \frac{n \sin CLB}{m \sin A + n \sin C \cos B};$$

$$\text{diameter} = \frac{n \operatorname{cosec} \theta}{\sin A} = \frac{(m^2 \sin^2 A + n^2 \sin^2 C + 2mn \sin A \sin C \cos B)^{\frac{1}{2}}}{\sin A \sin B \sin C}.$$



QUESTIONS FOR SOLUTION.

11988. (Professor SYLVESTER.)—If fx , ϕx are any two rational integral functions of x , and the roots of ϕx are all imaginary, prove that the number of real roots in fx , less the number of the same in

$\phi x \cdot f'x - fx \cdot \phi'x$, cannot be greater than unity. Show also, more generally that, whatever be the nature of the roots of fx , ϕx , the difference between the number of real roots in the one and the other cannot be greater than the number of the same in $\phi x \cdot f'x - fx \cdot \phi'x$, augmented by unity.

11989. (Professor ZERR.)—A smooth, straight, thin tube, length 2, is balancing horizontally about its middle point, and a particle is shot into it horizontally with such a given velocity that it just arrives at the middle point of the tube. If the angular velocity communicated to the tube equals the given velocity of the particle, show that the weight of the particle is one-third the weight of the tube.

11990. (Professor ORCHARD, M.A.)—Two conical vessels, of heights 12 inches and 18 inches, are filled with mercury up to heights 8 inches and 15 inches respectively, and their vertices are then fastened to the ends of a string which passes over a fixed pulley; find the total normal pressures on the bases during the motion.

11991. (Professor CAVALLIN, M.A.)—Four points A , B , C , and D are taken at random in the area of a circle; find the average of the shortest path between C and D , when the determined straight line AB is considered as an obstacle which may not be traversed.

11992. (Professor NEUBERG.)—On donne une courbe plane Δ . En un point quelconque M de Δ , on mène la tangente MT . O étant un point fixe, on construit l'angle MOT égal à un angle donné α . Trouver la tangente en T à la courbe décrite par ce point lorsque M parcourt Δ .

11993. (Professor DE LONGCHAMPS.)—Sur deux droites Δ , Δ' on considère deux points fixes A , A' . Soient B , B' deux points mobiles tels que le quadrilatère $ABA'B'$ soit inscriptible à un cercle. Par A , B on mène des parallèles aux bissectrices des bissectrices des droites Δ , Δ' . La diagonale δ du rectangle ainsi formé, et celle du rectangle analogue construit avec $A'B'$, concourent en un point dont le lieu géométrique est une droite passant par le milieu de AB .

11994. (Professor MORLEY.)—In a plane table are three straight collinear grooves which meet at a point O . A rigid plane lamina has three little projecting feet, ABC , which are placed in the grooves. Prove that the lamina can move on the table if the circumcircle ABC passes through O .

11995. (Professor HUDSON, M.A.)—Show that the number of days elapsed from January 1st, x B.C., to January 1st, y A.D., is

$$(x + y - 1) 365 + I \left(\frac{x+3}{4} \right) + \left(\frac{y-1}{4} \right) - I \left(\frac{y-201}{100} \right) + I \left(\frac{y-1}{400} \right),$$

where $I(m)$ means the greatest integer in m , and y A.D. is later than the change of style.

11996. (Professor RAMASWAMI AIYAR.)— $ABCD$ is a given tetrahedron. (1) Show that there are four points A' , B' , C' , D' on the circumscribing sphere of $ABCD$ whose distances from the faces of the given tetrahedron are proportional to the circumradii of those faces. (2) Calling $A'B'C'D'$ the tetrahedron conjugate to $ABCD$, show that the tetrahedron conjugate to $A'B'C'D'$ is $ABCD$. (3) Prove that the Lemoine points L_0 , L_1 , L_2 , L_3 are the same for the two conjugate tetrahedra $ABCD$ and $A'B'C'D'$. (4) If L denote any one of these Lemoine points, and the lines joining L to the vertices A , B , C , D and A' , B' , C' , D' be divided in any given ratio, and through the points of division anti-parallel sections α , β , γ , δ and α' , β' , γ' , δ' be taken of the tetrahedra $ABCD$ and $A'B'C'D'$, show that these eight sections are triangles which are equal in all respects, and that their 24 sides are tangent-lines to a sphere.

11997. (Professor GENESE, M.A.)—If PSp be a focal chord of a conic, and PM , pm perpendiculars on the corresponding directrix, prove, by statics, that parallels through P , p to Sm , SM respectively meet at the middle point of Mm .

11998. (Professor MINCHIN, M.A.)—(1) For accelerations of any order there is in the uniplanar motion of a rigid body at each instant a centre or point of no acceleration of that order; and the accelerations of all particles are related, in magnitudes and directions, to this centre exactly as velocities and ordinary accelerations are related to the instantaneous centres of velocity and acceleration. (2) In the case in which two lines fixed in a lamina are guided through two fixed-space points, while the displacement of the body takes place with constant angular velocity, prove that the space and body acceleration centres are two circles.

11999. (Professor BLATER.)—The first (I) of n persons gives to each of the remaining $n-1$ persons x times as much as each already possesses. Then II (the second person) gives in the same manner to each of the remaining $n-1$ persons. III , IV , ... (and finally the last person) give likewise in order, so that at last each has given to all the others the x^{th} multiple of what each possesses at the moment. When this has been completed, each person has an equal share. Example: If there are five persons, and $x = 1$, the initial shares may be respectively 81, 41, 21, 11, 6 pounds, and the final share of each 32 pounds. Required general formulæ for the initial and final shares.

12000. (Professor BARISIEN.)—On considère dans le plan d'un cercle un point A et une corde BB' perpendiculaire au diamètre passant par A , ainsi que les droites BA et $B'A$ perpendiculaires à AB et AB' . D'un point quelconque K situé sur le cercle, on mène une droite perpendicu-

laire à AK qui rencontre BA en P, B'A en Q, BB' en N, et le cercle en un second point M qui est le conjugué harmonique de N par rapport à P et Q.

12001. (Professor BERNÈS.)—Si, entre les côtés AB, AC d'un triangle ABC, on trace DE parallèle à BC, et FG antiparallèle relativement à l'angle A, l'axe radical des circonférences BEG, CDF est indépendant de la position de DE; il coïncide avec la droite qui joint A à la rencontre des droites BG, CF.

12002. (Professor MOREAU.)—D'un point fixe comme centre, on décrit deux cercles dont la différence des rayons est constante. Lieu des extrémités des cordes du grand cercle parallèles à une direction donnée et tangentes au petit cercle.

12003. (Professor COUPEAU.)—Étant donné un point P et un angle XOY, mener, dans une direction donnée, une sécante coupant OX, OY en deux points A, B, tels que le rapport PA : PB ait une valeur donnée $m : n$.

12004. (Professor PELLETREAU.)—Si, dans un triangle rectangle on abaisse la hauteur relative à l'hypoténuse et qu'on inscrive des cercles dans le triangle primitif et les deux triangles rectangles résultants, la distance des centres des deux derniers cercles est égale à la distance du centre du premier cercle au sommet de l'angle droit du triangle rectangle donné.

12005. (Professor ROUJEAU.)—Par un point P pris sur le côté AB d'un triangle ABC, mener une droite telle que la partie PQ comprise entre les côtés AB et AC soit égale à la somme des perpendiculaires abaissées des points P et Q sur BC.

12006. (Professor HAIN.)—Les droites joignant les sommets d'un triangle équilatéral ABC à un même point D rencontrent la circonférence ABC aux points A', B', C'. Démontrer que

$$AD \cdot AA' + BD \cdot BB' + CD \cdot CC' = 2AB^2.$$

12007. (Professor GÖB.)—Trouver dans le plan d'un triangle ABC deux directions telles que les droites AA₁, AA₂, BB₁, BB₂, CC₁, CC₂ menées par les sommets parallèlement à ces directions rencontrent les côtés opposés en six points A₁, A₂, B₁, B₂, C₁, C₂, situés sur une même circonférence.

12008. (EDITOR.)—Circles are drawn through the angles of a triangle, through the three escribed centres, and through the inscribed and each two of the escribed centres; show that the radical axes of these circles will meet the sides of the triangle at the points where they are cut by the bisectors of its angles.

12009. (H. J. WOODALL, A.R.C.S.)—In treatises on statics there are enunciated various propositions with respect to jointed frameworks with sliding pieces; if so, how? Give graphical methods where possible. [The Proposer has recently drawn, on paper, and partly constructed, a "mechanism" for drawing conics. The fact that there are 6 slides, and about 14 joints, makes the utility of the mechanism very doubtful. See also descriptions of Mr. INWARDS' construction (Physical Society, May 13th, 1892) in *Nature*, May 26th, &c.]

12010. (JOHN GRIFFITHS, M.A.)—Let DEF be a given triangle having its vertices D, E, F on the sides BC, CA, AB of a given triangle ABC; also, let the circle DEF intersect these sides again in D', E', F'. If DEF be in perspective with ABC, prove that the centres of similitude of the four triangles DEF, D'EF, DE'F, DEF' are concyclic, and likewise those of the triangles D'E'F', DE'F', D'EF', D'E'F. For example, if D, E, F be the mid-points of the sides of ABC, the centres of similitude of the one set of four triangles in question will lie on the Brocard circle, and those of the other set on the orthocentroidal circle of ABC. [The centre of similitude of an in-triangle DEF is the common point of intersection of the circles CDE, AEF, BFD.]

12011. (J. H. GRACE.)—If ABC be a triangle, and I its in-centre, the nine-point circle of BIC passes through the point in which the in-circle of ABC is touched by the nine-point circle. Also, the orthocentre of BIC is the pole with respect to the in-circle of ABC of the line joining the mid-points of AB and AC.

12012. (W. J. GREENSTREET, M.A.)—ABCD is a quadrilateral, O the intersection of its diagonals, V the vertex of the pyramid which has ABCD as its base. Every section of the pyramid perpendicular to VO is found to be a parallelogram. Find the locus of V.

12013. (R. CHARTRES.)—Obtain a simple rule for finding approximately the number of years in which a sum of money will double itself at any ordinary per cent. compound interest.

12014. (A. E. THOMAS, M.A.)—If

$$x_1 + y_1 + z_1 = x_2 + y_2 + z_2 = \frac{y_1 z_1 - x_1 x_2}{y_1 + z_1} = \frac{y_2 z_2 - x_2 x_3}{y_2 + z_2} = \frac{x_1 x_2 x_3}{y_1 z_1} = \frac{x_2 x_3 x_4}{y_2 z_2},$$

show that $x_2^{\frac{1}{2}} x_4^{\frac{1}{2}} (x_1^{\frac{1}{2}} x_2^{\frac{1}{2}} + x_3^{\frac{1}{2}} x_4^{\frac{1}{2}}) = x_1^{\frac{1}{2}} x_3^{\frac{1}{2}} (x_1^{\frac{1}{2}} x_4^{\frac{1}{2}} + x_2^{\frac{1}{2}} x_3^{\frac{1}{2}})$, and enunciate the corresponding theorems for the cases where there are $2n$ or $2n+1$ sets of quantities x_1, y_1, z_1 , &c.

12015. (C. LEUBESDORF, M.A.)—If $A = bc - f^2$, $B = ca - g^2$, $C = ab - h^2$, $F = gh - af$, $G = hf - bg$, $H = fg - ch$,

and if A', B', C', F', G', H' denote similar expressions with regard to the accented letters a', b', c', f', g', h', prove that

$$\begin{vmatrix} hf + h'f - bg' - b'g, & gh' + g'h - af' - a'f, & ab' + ba' - 2hh' \\ G, & F, & C \\ G', & F', & C' \end{vmatrix} = \begin{vmatrix} a'G + h'F + g'C, & h'G + b'F + f'C \\ aG' + hF' + gC', & hG' + bF' + fC' \end{vmatrix}.$$

12016. (Rev. T. C. SIMMONS, M.A.)—A straight line is divided by two random points. Show that the odds are 2 to 1 against the middle portion exceeding twice the geometric mean between the two end portions.

12017. (N'IMPORTE.)—Sitting in Kensington Gardens, near the Round Pond, it was mentioned that 5000 people were on it at one time during the skating at Christmas last, and the question arose how could the number be estimated roughly. It might be formulated in such a question as this:—At a mass meeting of the unemployed, an audience of N persons are standing within (and equally distributed over) a circular enclosure. How many persons will a constable pass, right and left, in "making a bee line" for the speaker in the centre?

12018. (J. J. WALKER, F.R.S.)—Let A, B be points on a line determined by $(abc\mathcal{Q}x, 1)^2 = 0$; C, D two other points on the same line determined by $(a'b'c'\mathcal{Q}x, 1)^2 = 0$; prove that the values of the double or cross ratios AC.DB : AB.DC, AD.CB : AB.CD are the roots of $4II'(2\lambda - 1)^2 - J^2 = 0$, where I, I', J are the invariants of the quadratics.

12019. (R. RUSSELL, B.A.)—Show that the locus of a point such that the four points of contact of tangents drawn from it to the quasi-evolute of an ellipse may be collinear, consists of three conics, every two of which are polar reciprocals with respect to the third.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a *separate* paper (otherwise, when used for printing, the Editor has the labour of entirely *re-writing* such articles); (b) to make their Solutions as short as possible; (c) to send all Questions *early in the month*, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to *prepay* the postage in *full*; and (f) to send all communications to

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LONDON MATHEMATICAL SOCIETY.

Thursday, June 8th, 1893.—Mr. A. B. Basset, F.R.S., Vice-President, in the Chair. The following gentlemen were elected members:—Messrs. T. S. Fiske, Ph.D., Columbia College, Secretary of the New York Mathematical Society; G. Bruce Halsted, Ph.D., Professor of Mathematics, Austin, Texas; H. M. Macdonald, M.A., Fellow of Clare College, Cambridge; D. B. Muir, B.A., late Scholar of Christ's College, Cambridge.

The Chairman announced that the Council had unanimously made the fourth award of the De Morgan Gold Medal to Professor Felix Klein, of Göttingen, on the ground of his many contributions to the advance of mathematical science.

The following communications were made:—

"Complex integers derived from $\theta^3 - 2 = 0$, and on the Algebraical Integers derived from an irreducible cubic equation," Prof. G. B. Mathews, M.A.

"Pseudo-Elliptic Integrals, and their Dynamical Applications," Prof. Greenhill, F.R.S.

"On the Expansion of certain Infinite Products" (ii.), Prof. L. J. Rogers, M.A.

"Note on some properties of Gouche Cubics," Mr. T. R. Lee, M.A.

"Note on the Centres of Similitude of a Triangle of constant form circumscribed to a given Triangle," Mr. J. Griffiths, M.A.

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SESSION 1893-94.

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The Educational Times.

COLLEGE OF PRECEPTORS.—HALF-YEARLY GENERAL MEETING.

THE Half-yearly General Meeting of the members of the Corporation was held at the College, Bloomsbury Square, on Wednesday, the 26th July.

The Secretary having read the advertisement convening the meeting, Dr. Wormell, Vice-President, was appointed chairman.

The Report of the Council was laid before the meeting, and was taken as read, a copy having been sent to every member. It was as follows:—

REPORT OF THE COUNCIL.

THE Council beg to lay the following Report of the proceedings of the past half-year before the Members of the Corporation:—

1. They have much satisfaction in reporting a very considerable extension of the Certificate Examinations. For the last two or three years the number of candidates entered for these Examinations has not shown any marked increase, while during the year 1892 there was a slight decline. The number of entries for the Midsummer Examination of 1893, however, shows an advance of no fewer than 870 as compared with the previous Midsummer Examination, and the total number of candidates (6,420) is nearly 600 in excess of any previous Examination conducted by the College at the same period of the year. This very satisfactory increase in the numbers is accompanied by the establishment of several new Centres. The Public Distribution of Prizes and Certificates, to the successful candidates at the last Christmas Examination, took place at the College on the 28th of February, when the Chair was taken by Sir Charles Hall, Q.C., M.P. Due notice will be given of the time and place of the forthcoming Distribution.

2. In addition to the general Examination for Certificates, the Professional Preliminary Examination, for medical students and others, was held in the second week in March last, and was attended by 239 candidates, as compared with 169 examined at the corresponding Examination last year.

3. For the Midsummer Examination of Teachers for the College Diplomas, 110 candidates have entered their names, as compared with 91 in July last. The Examination will be held in London, and at six Local Centres in various parts of the country.

4. In addition to their own examinations of pupils and teachers, and the examination of several entire Schools by visiting Examiners, the Council have conducted, as usual, during the past half-year, the Preliminary Examinations of the Royal Veterinary College and of the Pharmaceutical Society of Great Britain, as well as the Examination for the Certificates of the London Chamber of Commerce.

5. The Twenty-first Annual Series of Lectures to Teachers, on the "Science and Art of Education," commenced on the 23rd of February, with a Course of Twelve Lectures on "The Characteristics and Development of the Child," by Dr. James Sully, M.A.; and a Course of Twelve Lectures on the "Practice of Education," by the Rev. Canon Daniel, M.A., will be delivered in the autumn.

6. The usual Monthly Evening Meetings of the Members have been held, at which the following Papers have been read:—

February 8th.—"On the Teaching of Mathematics"; by Professor W. H. H. Hudson, M.A.

March 15th.—"On Commercial Geography": by Professor H. G. Seeley, M.A., F.R.S.

April 19th.—"On Ethical Instruction in Schools"; by Mrs. S. Bryant, D.Sc., F.C.P.

May 17th.—"On the Relation of Theory and Practice in Education": by Dr. R. Wormell, M.A., F.C.P.

June 21st.—"On the 'Series' Method of Teaching Languages": by Howard Swan, Esq.

The Papers, and the Discussions on them, have been reported, as usual, in the *Educational Times*.

7. The Bill for the Registration of Teachers in Secondary Schools, which was introduced by Sir Richard Temple in the last session of Parliament, was brought in again at the beginning of the present session; but the Council regret to have to report that, owing to the whole of the time of the House being occupied with other legislation, it has not been found possible to obtain an opportunity for its discussion on the second reading; and there is, they fear, no probability that anything can be effected in the direction of the professional organization of teachers during the present year.

8. The Bill to promote Secondary Education in England, which was introduced by the present Vice-President of the Committee of Council on Education in the last session of Parliament, was, with certain comparatively unimportant modifications, introduced by Mr. H. Hobhouse early in the present session, but has hitherto shared the same fate as the Registration Bill. It has been carefully considered by the Council, who have passed a series of resolutions in respect of several particulars in which its proposals appeared to them to be defective, and they have taken steps to bring their views on the subject under the notice of the Government and of those Members of Parliament who are immediately responsible for the Bill. The subject has also been discussed at various Conferences of Teachers, as well as of the representatives of School Boards, and a considerable diversity of views has been elicited. There appears, however, to be a general consensus of opinion as to the more pressing necessity of securing the professional registration of secondary teachers, and the consequent raising of their status and attainments, before steps are taken to reorganize our whole system of secondary education, by the establishment and maintenance of public secondary schools out of the rates. There is also a general opinion that so important and far-reaching a measure should not be left in the hands of private members, but should be introduced under conditions which would secure for it a thorough examination before the principle can be said to be accepted by the legislature.

9. During the past half-year, the Diploma of Fellow has been conferred on one candidate; that of Licentiate on three candidates; and that of Associate on thirty-nine, who had passed the required examinations. Forty-six new members have been elected, and notice has been given of the withdrawal of eight. The Council regret to have to report the death of the Rev. Dr. C. Pritchard, F.R.S., F.C.P., Professor of Astronomy at Oxford, who, when living in London, was for several years a member of the Council, and took an active part in their proceedings; and of the following members:—Mr. T. V. Alkin, L.C.P., Mr. J. Aldridge, Mr. J. B. Harvey, the Rev. C. Hawkins, one of the Examiners in Scripture History, Mr. J. Hopher, and Mr. J. Lewis, L.C.P.

In reference to Paragraph 8, Mr. BROWN said he felt quite sure the meeting would agree with him that the Council had struck the keynote with regard to the Secondary Education Bill when they stated that it was the general opinion that so important and far-reaching a measure should not be left in the hands of private members, but should be introduced under conditions which would secure for it a thorough examination. If there was to be a Bill at all it should be brought in by the Government, and thoroughly discussed, so that any defects which were found to exist in it might be pointed out. All parties were unanimous in saying that something must be done for secondary education; but it was most essential that whatever was done should be with full consideration of all the consequences that would ensue on the action of the Legislature.

The Report was adopted.

The Dean then presented his Report, which had been printed and distributed among the members present, and which was as follows:—

THE DEAN'S REPORT.

In addition to the general statement of the examination work of the College during the past half-year, which has been embodied in the report of the Council, I have now to submit to you, in detail, the statistics and results of the various examinations.

The Midsummer Examination of Candidates for Certificates took place on the 13th to the 16th of June at 204 Local Centres and Schools. In the United Kingdom the Examination was held at the following places:—Aberystwith, Almondbury, Alresford, Amberley (Glos.), Apperley Bridge, Ashford (Kent), Banham, Barnsley, Barnstaple, Barrow-in-Furness,

Belfast, Belper, Betley, Birmingham, Bishop's Stortford, Blackpool, Blakebrook, Borden, Boston Spa, Bournemouth, Braintree, Brampton (Huntingdon), Bridgwater, Brighton, Bristol, Bromley (Kent), Broxbourne, Budleigh Salterton, Bungay, Bushey Heath, Cardiff, Cardigan, Carmarthen, Carnarvon, Catterick, Cheltenham, Chepstow, Chesterfield, Churwell, Coleraine, Colwyn Bay, Cranbrook, Croydon, Deal, Didsbury, Doncaster, Douglas (Isle of Man), Dudley, Dumfries, Durham, Ealing, Eastbourne, Enfield, Epsom, Evesham, Exeter, Exmouth, Eye (Suffolk), Faversham, Forest Hill, Fowey, Frome, Fulneck, Goudhurst, Great Grimsby, Halstead, Hastings, Hereford, Herne Bay, High Barnet, High Wycombe, Hitchin, Horsmonden, Huddersfield, Hull, Jersey, Kingston-on-Thames, Launceston, Leamington, Leeds, Liskeard, Liverpool, Llandilo, Llandudno, London, Loughborough, Ludlow, Luton, Lynsted, Maidenhead, Maidstone, Malvern, Manchester, Margate, Market Bosworth, Market Harborough, Marlborough, Melksham, Minehead, Mumbles, Newark-on-Trent, Newcastle-on-Tyne, Newport (Isle of Wight), New Southgate, Northwich, Norwich, Nottingham, Ormskirk, Oswestry, Oxford, Paignton, Plymouth, Pontardawe, Portsea, Portsmouth, Ramsgate, Ratcliffe, Rhyl, Richmond (Surrey), Ripley (Surrey), Rye, St. Asaph, Sandbach, Sandwich, Sevenoaks, Sheffield, Sherborne, Sidcup, Slough, Soham, Southampton, Southend, Southport, Steyning, Streatham, Strood, Stroud, Sunderland, Surbiton, Sutton Coldfield, Swaffham, Taplow, Taunton, Thame, Torquay, Towcester, Truro, Tunbridge Wells, Wadebridge, Warminster, Wellington (Salop), West Buckland (South Molton), Weybridge, Whalley, Whitechurch (Salop), Wimborne, Winchester, Windsor, Wirksworth, Woodstock, Woolhampton, Wrexham, Wymondham, Yarm, Yeovil, York. The Examination was also held at Constantinople and at Freetown, Sierra Leone.

The total number of candidates examined was 6,235—4,020 boys and 2,215 girls.

Taking the Midsummer and Christmas Examinations together, the total number of candidates examined during the year ending Midsummer 1893 (not including those who attended the supplementary examinations in March and September), has been 16,677.

The following table shows the number of candidates presented at the Certificate Examinations during the past five years, with the proportion of those who obtained certificates:—

Year ending	Entered.	Passed.	Percentage.
Midsummer, 1889	14,566	11,165	76.7
„ 1890	15,107	11,571	76.7
„ 1891	15,648	12,526	80.0
„ 1892	15,763	12,783	81.1
„ 1893	16,677	13,329	79.9

The number of passes in the above table includes a considerable number of candidates who failed to pass in the class for which they were entered, but who, under our rules, are entitled to receive Certificates of a lower class. The following table shows the proportion of the candidates at the recent Midsummer Examination who passed in the class for which they were entered:—

	Entered.	Passed.	Percentage.
Entered for 1st Class	461	252	54.7
Entered for 2nd Class	2,285	1,181	51.7
Entered for 3rd Class	3,489	2,479	71.1

At the above examination 98 candidates who took 1st Class papers in French or German offered themselves for the oral examination (dictation and conversation) in those languages. Of these, 93 candidates took French, of whom 76 passed; and 48 German, of whom 39 passed.

The number of candidates who presented themselves at the Midsummer Examination for Certificates of Proficiency in Mercantile Subjects was 24, of whom 13 have obtained Certificates.

At the Professional Preliminary Examination for First and Second Class Certificates, which was held on the 7th to 9th of March, in London and at four Provincial Centres, viz., Birmingham, Bristol, Leeds, and Liverpool, 232 candidates presented themselves, of whom 98 obtained Certificates qualifying for registration as medical students.

The Examination of Teachers for the College Diplomas took place on the 4th of July and three following days, in London and at the following Local Centres—Birmingham, Bristol, Inverness, Leeds, and Manchester. It was attended by 97 candidates, of whom 49 were men and 48 women. The subjects of Examination included the Theory and Practice of Education, Scripture History, English Language, English History, Geography, Arithmetic, Algebra, Euclid, Trigonometry, Analytical Geometry, Natural Philosophy, Latin, Greek, French, German, Spanish, Animal Physiology, Botany, Geology, Chemistry, Drawing, and Music. On the results of this examination, 3 Candidates have obtained the Diploma of Licentiate, and 29 that of Associate; while one Candidate has obtained a Certificate of Practical Ability to Teach.

At the Examination for the Junior Commercial Certificates of the London Chamber of Commerce, which was held on the 10th to 14th July, 81 Candidates were examined.

The Preliminary Literary Examinations of the Pharmaceutical Society have been held, as usual, at the times appointed; the number of Candidates examined during the past half-year was 792.

The DEAN, in moving the adoption of the Report, said he felt sure the members would agree with him in saying that the

Report was a most favourable one. The only thing to which he need draw particular attention was the increase in the number of candidates.

The Report was adopted.

Mr. RADFORD then moved the following resolution:—

“That it is expedient for the Council to confer honorary Memberships of this College upon those distinguished gentlemen who have distributed prizes to the successful candidates in the Certificate Examinations, and also upon the Members of Parliament and other men of distinction and culture who are favourable to the interests and progress of the College.”

He said he was not attacking the Council or finding fault with them in any way. Of the thirty-three distinguished gentlemen who had presided at their prize distributions, the names of only six appeared in the list of honorary members. Nothing was said in the Charter for or against the election of honorary members; but the first section of the By-Laws provided that persons who had promoted the interests of the College might be elected as honorary members; and this might fairly be said of the gentlemen to whom he alluded. It might be that the Council were only awaiting a recommendation from the General Meeting to take the step that he advised them to take. On the question of expediency, he would prefer not to dwell, though much might be said for his proposal in this point of view, but rather to urge the point as a matter of duty.

Dr. BELL, in seconding the motion, said it appeared to him to be a very harmless resolution; even if it did not do much good, it could not do much harm.

The DEAN said that Mr. Radford was by no means doing wrong in reminding the Council of the privilege they already possessed, but he could not quite agree with him as to the principles of election to honorary memberships. It was the practice of the Council to elect one or two honorary members from time to time. A reference to the Calendar would show that honorary members were elected in 1858, 1861, and 1865. After that there was a break until 1876, when three or four were elected. Then came another interval, and fresh elections took place in 1887 and 1891. He thought it very probable that the Council would before long proceed to another such election. What guided them in their election was no doubt partly services rendered to the College in different ways, partly services to the cause of education in general. In all cases they had selected persons intimately connected with education in some way or other. At the same time they had gone on the principle of not electing any schoolmaster who was still at work, as it was considered that all schoolmasters ought, if possible, to be ordinary members of the College. With regard to certain of the distinguished men alluded to by Mr. Radford, he was not quite sure it would be quite the compliment they would appreciate—to invite them to become honorary members as a regular *quid pro quo* for the courteous and kind acts which public men did for the College and the cause of education.

Mr. KIMBER, without pronouncing any opinion upon the proposal, regretted the wording of the resolution, as it appeared to him to directly charge the Council with neglect. He thought it would have been better to have worded the resolution as a recommendation to the Council.

Mr. RADFORD, in reply, said he had already asserted that he had no intention whatever of charging the Council with neglect, or anything approaching to disrespect, in the course they had taken; and, after what had been said by the Dean, he expressed his willingness to withdraw the resolution.

The resolution was therefore, by leave of the meeting, withdrawn.

Another resolution, standing in the name of Mr. Radford, was also withdrawn by the mover.

A vote of thanks to the Chairman concluded the proceedings.

ADJOURNED MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

An Adjourned Meeting of the Council was held at the College, on Wednesday, the 26th ult. Present—Mr. Pinches in the Chair; Miss Bailey, Mr. Brown, Dr. Buchheim, Miss Buss, Mr. Chettle, Dr. Dillon, Mr. Eve, Rev. Dr. Hiron, Mr. Kimber, and Mr. Milne.

Diplomas were granted to the following, who had completed their subjects at the Midsummer Examination of Teachers:—*Licentiate*—F. J. Borland, H. W. H. Dobbins, G. W. Parlett. *Associate*—H. Ainsworth, T. P. Beavan, Miss F. A. S. Berkeley, E. C. Bullock, J. W. Burnicle, Miss A. M. Carter, A. Collins, Miss H. C. Everitt, Miss R. Fairbrother, W. L. Foster, Miss I. M. Frost, Miss M. Gauld, Miss A. B. Hopson, Miss E. J. Langley, Miss E. Moffatt, Miss E. B. Nowel,

J. F. Quarmby, G. W. Raper, Miss A. Riley, Miss A. E. Rix, H. E. Spillan, J. Spry, W. P. Swindells, Miss F. Tapp, R. Thomas, G. R. Waterson, A. D. Webb, Mrs. E. S. Willey, S. Williams, J. W. Wood. The prize of £10 for Theory and Practice of Education was awarded to Mr. H. W. H. Dobbins; the prize of £5 for Mathematics to Mr. B. H. Walmsley, and the prize of £5 for Natural Sciences to Mr. F. J. Borland.

TEACHERS' DIPLOMA EXAMINATION—PASS LIST.

JULY, 1893.

Theory and Practice of Education.

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Fairbrother, Miss R. (hon.)

Music.

Webb, H. V.

PRACTICAL EXAMINATION.

Wardley, W. R.

ON TEACHING ENGLISH LITERATURE.

"Where are your books?—that light bequeathed
To beings else forlorn and blind!
Up! up! and drink the spirit breathed
From dead men to their kind."

What do we seek in books? Information, guidance, pleasure. Man desires to know the causes of things, and, though he may learn so much by first-hand search, yet, for most, if not all, of his knowledge, he must appeal to books. Not directly, always; at the service of the lazy man is what Wendell Holmes calls the "literary tea-pot." To man's need for guidance, Chaucer's knight testifies in vivid, if quaint, similitude:—

"We faren as he that dronke is as a mous.
A dronke man wot wel he hath an hous,
But he not which the righte wey is thider,
And to a dronke man the wey is slider,
And certes in this world so faren we;
We seeken faste after felicité,
But we gon wrong ful ofte breively."

Now, to right living, experience so far helps us, but experience is a schoolmaster whose fees are often very high, and we are glad to learn from those that, having faced the rude boisterous shocks of life, have set down words of warning and direction. The pleasure spoken of as got from books needs special attention. I do not mean merely that given by what is said. The apprehension of a great truth is often accompanied by such a throb of pleasure as must have stirred Cortez—

"when with eagle eyes
He stared at the Pacific";

similar, but more intense, is the emotion felt when, through the thick darkness of doubt and perplexity, some clear star of Arcady has shone, and the forspent toiler

"con lena affannata
Uscito fuor del pelago alla riva,"

looks back on the perilous waters; and a high pleasure belongs to the subjects of poetry; but, separate from all this, is the pleasure conveyed by the language itself.

In order to illustrate this additional pleasure belonging to the language, let us examine a few cases. Take first Professor Atkinson's rendering of some remarks by Professor Helmholtz on glaciers:—

"The outward appearance of glaciers is very characteristically described by comparing them, with Goethe, to currents of ice. They generally stretch from the snowfields along the depth of the valleys, filling them throughout their entire breadth, and often to a considerable height. They thus follow all the curvatures, windings, contractions, and enlargements of the valley. Two glaciers frequently meet, the valleys of which unite. The two glacial currents then join in one common principal current, filling up the valley common to them both. In some places these ice-currents present a tolerably level and coherent

surface, but they are usually traversed by *crevasses*, and both over the surface and through the crevasses countless small and large water-rills ripple, which carry off the water formed by the melting of the ice. United, and forming a stream, they burst, through a vaulted and clear blue gateway of ice, out at the lower end of the larger glacier.

"On the surface of the ice there is a large quantity of blocks of stone, and of rocky *débris*, which, at the lower end of the glacier, are heaped up and form immense walls; these are called the *lateral* and *terminal moraine* of the glacier. Other heaps of rock, the *central moraine*, stretch along the surface of the glacier in the direction of its length, forming long, regular dark lines. These always start from the places where two glacial streams coincide and unite. The central moraines are, in such places, to be regarded as the continuations of the united lateral moraines of the two glaciers."

As information, this is perfectly satisfactory, but compare it as literature with this by Forbes:—

"Poets and philosophers have delighted to compare the course of human life to that of a river; perhaps a still apter simile might be found in the history of a glacier. Heaven descended in its origin, it yet takes its mould and conformation from the hidden womb of the mountains which brought it forth. At first soft and ductile, it acquires a character and firmness of its own, as an inevitable destiny urges it in its onward career. Jostled and constrained by the crosses and inequalities of its prescribed path, hedged in by impassable barriers which fix limits to its movements, it yields groaning to its fate, and still travels forward, seamed with the scars of many a conflict with opposing obstacles. All this while, although wasting, it is renewed by an unseen power—it evaporates, but is not consumed. On its surface it bears the spoils which, during the progress of its existence, it has made its own; often weighty burdens devoid of beauty or value—at times, precious masses, sparkling with gems or with ore. Having at length attained its greatest width and extension, commanding admiration by its beauty and power, waste predominates over supply, the vital springs begin to fail; it stoops into an attitude of decrepitude; it drops the burdens, one by one, which it had borne so proudly aloft; its dissolution is inevitable. But as it is resolved into its elements, it takes, all at once, a new, and livelier, and disembarassed form—from the wreck of its members it arises 'another, yet the same'—a noble, full-bodied arrowy stream, which leaps rejoicing over the obstacles which before has staid its progress, and hastens through fertile valleys towards a freer existence, and a final union in the ocean, with the boundless and the infinite."

We feel that this second passage moves on a higher plane than the first; that it has a nobility of expression lifting it above mere literature of knowledge, and ranking it with the literature of power. Another interesting contrast is afforded by comparing Lingard's and Froude's character of Henry VIII. Both historians introduce the same features; the king's beauty of person, his fine bearing, his bodily strength, his agility, his high powers of intellect, his studious habits, his energy; but, as regards expression, the whole advantage lies with Froude. The sinewy texture of his composition, its firm and compact structure, yields a very real pleasure.

Again, to turn to persuasive writing. Writing of guidance, Bentham has nothing to offer to readers not strongly interested in his subject-matter; Paley contains many passages that, apart altogether from what they treat of, secure attention for their simple and forcible language; Macaulay invests any subject with the attractions of brilliant and masterful oratory; while Chalmers and Hall may be cited as representing the lofty eloquence whose charms embalm even the subjects of the hour. We are far now from the alarms of 1803, but who can read unmoved the exhortations of Hall—words throbbing with power, like bursts of organ music? He imagines the mighty dead of England disturbed in their eternal repose by doubt of the issue.

"Enjoy that repose, illustrious immortals!" he exclaims. "Your mantle fell when you ascended; and thousands inflamed with your spirit, and anxious to tread in your steps, are ready to swear by Him that sitteth upon the throne, and liveth for ever and ever; they will protect freedom in her last asylum, and never desert that cause which you sustained by your labours and cemented by your blood. And thou, sole Ruler among the children of men, to whom the shields of the earth belong, gird on thy sword, thou Most Mighty; go forth with our hosts in the day of battle! Impart, in addition to their hereditary valour, that confidence of success which springs from thy presence! Pour into their hearts the spirit of departed heroes! Inspire them with thine own; and while led by thine hand, and fighting under thy banner, open thou their eyes to behold, in every valley and in every plain, what thy prophet beheld by the same illumination—chariots of fire and horses of fire! Then shall the strong man be as tow, and the maker of it as a spark; and they shall both burn together, and none shall quench them."

The materials of poetry (which includes fiction) are, in the majority of cases, intrinsically pleasure-giving, but the effect may be greatly enhanced by suitable language. Compare, for example,

Dickens's account of the death of Little Nell—the multiplication of circumstances, the purposeful lingering over harrowing details—with Landor's lines:—

"Artemidora! Gods invisible,
While thou art lying faint along the couch,
Have tied the sandal to thy veined feet,
And stand beside thee, ready to convey
Thy weary steps where other rivers flow.
Refreshing shades will waft thy weariness
Away, and voices like thine own come nigh,
Soliciting, nor vainly, thy embrace."

"Artemidora sigh'd, and would have pressed
The hand now pressing hers, but was too weak.
Iris stood over her dark hair unseen
While thus Elpenor spoke. He look'd into
Eyes that had given light, and life erewhile
To those above them, those now dim with tears
And watchfulness. Again he spake of joy
Eternal. At that word, that sad word, joy,
Faithful and fond her bosom heav'd once more,
Her head fell back; and now a loud deep sob
Swell'd thro' the darken'd chamber; 'twas not hers."

The two obvious characteristics of these fine lines are beauty of language and moderation of feeling.

Of books to be read, then, there are three classes: those only useful for their contents; those useful for their contents and attractive for their style; those giving refined pleasure both by their matter and by their form. Of the three classes only the last two are, in any real sense, literature, and, therefore, within the limits of this discussion. Literature, in short, is worthy thought worthily expressed, and our business as teachers is to lead our pupils to appreciate the artistic matter and the artistic form; only in rare instances do we find pupils taking naturally to the best literature, or even to very good literature. This statement is not disproved by the popularity among them of, say, Mr. Stevenson's novels; they are drawn by the direct force of the narrative, and miss nearly everything else that distinguishes Mr. Stevenson's work. Where verse is concerned, the deficiency of appreciation is still more marked. Some trouble is needed to win recognition for the "Lays of Ancient Rome," for Campbell's war lyrics, and for Scott's masterpieces in verse, and when so much has been gained, it is still a far cry to Tennyson and Wordsworth, to Spenser, Milton, and Shakespere, to Matthew Arnold and Landor. Nor is stopping short of the excellent to be accepted, in an easy spirit, as due to difference of taste. The cause is want of taste, truncated development or downright mental deficiency. Not long ago a public man told the students of Glasgow University how extensive is his reading in Rhoda Broughton, how limited his reading in Shakespere, and plumed himself on his candour. Candour, doubtless. But we do not expect people to boast of being colour-blind, of being deaf, of wanting the sense of smell; yet, on this showing, they might. Nor can it be argued that one man is as happy at a lower level of reading as another is at a higher. If this contention is sound, then a man content to forego all artistic delights, and to feed on grosser pleasures, is as happy as the most cultured virtuoso; nay, a snail is as happy as our finest intellects. The error lies in ignoring *quality*, and thinking only of *quantity* of happiness, and thus the good becomes the enemy of the better. But there must be no halting; art is ever calling us

"forward to the starry track
Glimmering up the heights above us
On and always on."

Not easily reached, however, are these lofty heights. They lie beyond a wilderness of wanderings and difficulties where, how trusty soever the guidance, years of preparation must be spent. Nor is it given to all to leave the wilderness and enjoy the fruits of possession, but the toils of the way are not without recompense for the fleshpots of baser pleasures abandoned. Some tell us no guidance is needed—that, indeed, any attempt at scientific treatment of literature is like dissecting an organism, fatal to the subject, and they talk derisively of sign-post criticism. It is not difficult to show the weakness of such a position. Does any self-led *littérateur* maintain that all literature is equally good—that Tupper stands on the same plane as Shakespere? If not, what becomes of the objection to analysis? Discrimination even of feeling is a purely intellectual process; and if he did maintain the effect of all poetry to be the same, he could not hold out against analysis: the detection of agreement is also an intellectual process. I am inclined to think the attempt to maintain such a position is due to our familiarity

with the instrument of literature; we are so accustomed to using language that we sometimes imagine ourselves on more intimate terms with it than we really are. If another fine art is chosen—painting, or music, or architecture—the source of error is eliminated, and no one maintains that people instinctively turn to the noblest works. Comparison and discrimination are absolutely essential to progress in appreciating the best in each and every art, and must be carried on systematically. Only thus is all the inferior material cradled out, and the pure gold secured. To do this in literature, we must subject both matter and form to analysis; we must test each author by comparison with himself and with the great classics, and by fundamental laws of language and of mind. Can anyone do all this for himself? Some can do more for themselves than others (as an undergraduate, Tennyson could detect Fletcher's hand in Shakespeare's "Henry VIII."), but at the service of every literary student is a large body of critical literature, reaching from Aristotle onwards, and herein the critic goes to school. And so we conclude that, only after hard intellectual work can the student sit down to full sensuous enjoyment, to perfect appreciation of what can be declared *ὑπερόχον ἔμμεναι ἄλλων*.

The way is now clear for considering how to treat selected texts. In the first place, the English teacher's concern is *not* with the subject-matter as information or as rules for conduct. In papers set on Bacon's Essays, I find the following questions:

- "1. What are the uses and justification of war?"
- "2. 'It is a shamefull thing to take the scumme of people to be the people with whom you plant.' Illustrate this by reference to the history of the British Colonies."
- "3. What things make an ill seat for a house? Describe the two sides of Bacon's 'Princely Pallace.' What does he say about fountains and pools?"

These questions are simply ridiculous; not in the very slightest degree have they any connexion with work in English literature. On the other hand, the subject-matter of, say, Shakespeare's "King John" does belong to such work, because it has been chosen for artistic purposes. With this preliminary remark, I turn to a consideration of the language of our texts. What the precise language ought to be is sometimes matter for dispute; that is, there are various readings. As a rule, the teacher should trouble his pupils with very little or no textual criticism, but he does well to violate this rule when he can compare different versions by the author. For example, he might fitly consider with his class why Scott changed—

"Wild from their red and swarthy hair
Look'd through their eyes with savage stare
On Marmion as he pass'd,"

to,

"Wild through their red or sable hair
Look'd out their eyes with savage stare
On Marmion as he pass'd."

Grammatical points, including derivation, should not be taken up along with literary criticism, nor in a haphazard manner; the examples should be so chosen and handled as either to illustrate or to develop principles. In the first line of the Prologue to the "Canterbury Tales" occur the words *shoures sote*. *Shour* is A.S. *scúr*, but this is only an isolated statement, and is therefore worth almost nothing. We note that A.S. *sc* has become *sh*, as in *fish*, from *fisc*; *dish*, from *disc*; *shame*, from *sceamu*; and that words like *scald*, *skill*, *scall*, *skin*, *scum*, &c., where *sc* or *sk* is kept, though Teutonic, are not of A.S., but of Scandinavian origin. The change of A.S. long *u* to modern *ou* or *ow* is seen on examination to be an almost prevailing principle, as in *mouse*, *house*, *town*, *brown*, &c., from *mús*, *hús*, *tún*, *brún*, &c. Again, *swote*, really an adverb, when compared with *swete*, the adjective, suggests more than a mere remark that in *swete* the *o* has been changed to *e*; it leads to an explanation of forms, like *geese*, *mice*, *men*, *feet*. When principles, and not single words, are handled, the pupil gets a real command of derivation instead of a knowledge of so many instances. A useful exercise on the origin of words consists in Saxonising a passage containing noticeable words from classical sources, and in seeing what has been gained and lost. It would be interesting, for example, to note how far one could meddle with language like this:—

"Now, since these dead bones have already outlasted the living ones of Methusaleh, and in a yard underground and thin walls of clay, outworn all the strong and specious buildings above it, and quietly rested under the drums and trappings of three centuries, what prince can promise such diuturnity to his relics."

The next stages consist in examining the texts for principles

of order of words, for economy or profuseness of expression, for figures of speech, for laws of sentence and paragraph structure, for qualities of style, for the build of the whole composition, for plot, character delineation, verse-forms, and such like. A good deal of such work can be turned to practical account in forming the pupil's own style, but I have already discussed this aspect of it in the *Journal of Education* for August, 1892, and, at present, put that aside. What is in view just now is the kind of analysis that in successive years must be applied to successive works in order to rise to full appreciation of the finest literature. At first, only simple writers are so treated, and only the easier parts of this literary analysis are attempted; but, by degrees, more difficult writers are taken, and the range of the analysis is widened. From an early stage two or three writers should be in hand at the same time, for the very sort of criticism is comparison and contrast, and these cannot begin too soon. Continuous work of this kind gradually develops good taste, as in the process of patient study the dross is detected, and the fine gold is discovered. This analysis of texts presupposes, of course, systematic instruction in rhetoric by principle and example; only on such a foundation can a teacher conduct thoroughgoing analysis.

I turn now to the history of literature, and ask—How are we to treat this? In the early stages of English work, very little literary history is necessary. Some information about the authors read is enough. There is nothing gained by making children get up facts and critical remarks about authors, none of whose writings they have read. And the same is true of older students; "chatter about Shelley" is not literature. Moreover, our literary men and women are now the centre of a very respectable body of writings biographical and critical—and most of the best of it is easily accessible to learners. Whatever literary history is taught should be such as pupils can less readily handle by themselves. For example, one way of proceeding in dealing with the great Georgian epoch of our literature would be to point out, first of all, the chief influences at work, the energising and renovating effect of the French Revolution, with its fierce appeal from conventionality to reality, the stimulus exerted by German, Early English, and Greek writings; and then to illustrate the working of these influences among representative writers. The general effect of the French Revolution might be exemplified by comparing the matter and the manner of Cowper, or Burns, or Wordsworth with Pope's; its inspiring influence from Shelley and Byron; its tendency to induce reaction from Wordsworth, Coleridge, and Southey; its ultimate rousing of a stray British patriotism from Scott and Campbell. The other great potencies would be similarly treated, and in every case the authors themselves would be studied far enough to establish the positions taken up. Again, some special kind of literature might be handled for the purpose of showing difference and similarity of method on the part of various writers; this would involve a consideration of the circumstances that lead to the formation of schools. Cognate to this is investigation of the way in which great writers, though leading different literary movements, affect each other; of Tennyson's relation, for example, to Keats and Wordsworth. Again, the mechanism of style might be chosen as the connecting link, and typical writers examined purely as stylists.

These suggestions should be sufficient to show that literature-history teaching need not consist in the presenting of a disorderly array of facts and criticisms, but can be made thoroughly scientific; that the pupils can be made to apply comparison and contrast for the purpose of forming classes and reaching generalization. In this way the teaching becomes a real discipline, and the subject-matter is firmly grasped. Pupils can be asked, not to reproduce second-hand information, but to exhibit the results of their own work. When a period of literature has been studied in this thoroughgoing way, an examiner should get satisfactory answers to such a question as this—Who wrote the following passage? Give your reasons. The pupils, though they might fail to hit on the exact author, would be able to give intelligent reasons for their decision, reasons based on actual literary analysis. They are much better occupied over work of this kind than in trying to reproduce Bacon's views on laying-out gardens.

Possibly enough has been said to show that the teaching of English literature need not involve hurried raids into every subject that occupies the wit of man, but has a well-defined field; and that, while informative in certain definite directions, it is, at the same time, æsthetic and disciplinary.

A. M. WILLIAMS.

THE LONDON CHAMBER OF COMMERCE.

EXAMINATION FOR JUNIOR COMMERCIAL CERTIFICATES.

JULY, 1893.

The above Examination was held at the College of Preceptors, London, and at the Town Hall, Ipswich, on the 10th to 14th of July. The number of candidates was 81, of whom the following obtained certificates:—

LONDON CENTRE.

CANDIDATE'S NAME.	SCHOOL.
Antoine, A. J. <i>el. slh.</i>	St. Mary's College, Woolhampton.
Baker, A. A. <i>d.</i>	Parmiter's School, Victoria Park.
Bateman, C. C.	Bedford Modern School.
¹ Camp, J. <i>a.b.d.d*.e.hg.m.me.slh.</i>	Owen's School, Islington.
² Chandler, T. R. <i>s.</i>	Tollington Park College, N.
Daniel, R. H. <i>d*</i>	Haberdashers' Hoxton School.
Eborall, E. A. <i>b.</i>	Central Foundation School, E.C.
³ Faunch, E. A. <i>b. d. d*</i>	Parmiter's School, Victoria Park.
Frings, V.	St. Mary's College, Woolhampton.
Gibbs, J. E. <i>d. d*</i>	Central Foundation School, E.C.
Gimbert, T. W. <i>s.</i>	The Polytechnic, Regent Street.
Goodricke, L. F.	Bedford Modern School.
⁴ Grant, W. A. <i>b. d. e. hg. m.</i>	Owen's School, Islington.
⁵ Hackforth, E. <i>b. d. d*. hg. m. me.</i>	Owen's School, Islington.
Havinden, G. E. <i>d. d*</i>	Owen's School, Islington.
⁶ Hey, W. M. <i>d. hg.</i>	Bedford Modern School.
Hubbard, E. W. J. <i>b.</i>	Owen's School, Islington.
Israel, I. <i>b. d.</i>	Owen's School, Islington.
⁷ Jacob, G. G. <i>d*. g.</i>	City of London School, E.C.
Jacobi, H. L. <i>d.</i>	Hillmartin Coll., Busby Place, N.
⁸ Johnson, H. <i>b. d. s.</i>	Clapham Boys' Public Day School.
Kissan, B. W. <i>b. d. e.</i>	Central Foundation School, E.C.
Lusher, H. J. <i>b.</i>	Central Foundation School, E.C.
⁹ Lutt, H. E. W. <i>ch. d. d*. e. m.</i>	St. Peter's College, Brockley.
Manson, E. J. <i>d*. e.</i>	Owen's School, Islington.
Maples, E. E. <i>b. d. d*</i>	Owen's School, Islington.
May, O.	Tollington Park College, N.
¹⁰ Nicholls, W. H. <i>b. d. g.</i>	Tollington Park College, N.
Pacey, A. F.	Bedford Modern School.
Pike, E. G.	Central Foundation School, E.C.
¹¹ Potter, A. J. <i>b. ch. d. d*. slh.</i>	Parmiter's School, Victoria Park.
Reeve, D. W. <i>e.</i>	Sutton Park School, Surrey.
Stromqvist, H. S. <i>b. d. d*</i>	Owen's School, Islington.
Thurgood, W. W.	Central Foundation School, E.C.
¹² Tooley, A. A. <i>b. d. d*. m. slh.</i>	Owen's School, Islington.
Way, W. H. B. <i>d.</i>	Owen's School, Islington.
¹³ Wicks, C. A. <i>a. ch. d. d*. m. slh.</i>	Parmiter's School, Victoria Park.
¹⁴ Williams, H. <i>a. b. d.</i>	Owen's School, Islington.
¹⁵ Wills, J. J. <i>b. d. e. l. m.</i>	Central Foundation School, E.C.
Winmill, G. <i>d.</i>	Central Foundation School, E.C.
¹⁶ Woodfield, C. G. <i>d. m. slh.</i>	Owen's School, Islington.
Wright, W. J. O. <i>b. d. d*. e. m.</i>	Owen's School, Islington.

IPSWICH CENTRE.

Catchpole, W. <i>d. d*</i>	Northgate School, Ipswich.
Cracknell, J. H. <i>b. d. d*. s. slh.</i>	Ipswich Middle School for Boys.
Curtis, W. A. <i>b. d. e. s. slh.</i>	Ipswich Middle School for Boys.
White, W. H. <i>b. ch. d. d*. e. cl. m. me. slh.</i>	Ipswich Middle School for Boys.

In the above list small italic letters denote that the candidate to whose name they are attached obtained distinction in the following subjects respectively:—

<i>a.</i> = Arithmetic.	<i>e.</i> = English.	<i>m.</i> = Mathematics.
<i>b.</i> = Bookkeeping.	<i>el.</i> = Electricity and	<i>me.</i> = Advanced
<i>ch.</i> = Chemistry.	Magnetism.	Mechanics.
<i>d.</i> = Drawing	<i>hg.</i> = Commercial History	<i>s.</i> = Shorthand.
(elementary).	and Geography.	<i>slh.</i> = Sound, Light, and
<i>d*</i> = Drawing	<i>g.</i> = German.	Heat.
(advanced).	<i>l.</i> = Latin.	

PRIZES.

- ¹ "Marshall & Snelgrove" Prize of £35 for Bookkeeping, Handwriting, and Arithmetic. Disqualified for £5 Prize for Commercial History and Geography.
- ² £10 Prize for General Proficiency.
- ³ £3 Prize for Drawing.
- ⁴ £5 Prize for Commercial History and Geography.
- ⁵ £5 Prize for General Proficiency.
- ⁶ £2 Prize for Commercial History and Geography.
- ⁷ "Debenham & Freebody" Prize of £30 for Proficiency in French and German.—Disqualified for the £3 Prize for German.
- ⁸ £3 Prize for Shorthand.
- ⁹ "Barclay" Prize of £20 for General Proficiency.
- ¹⁰ "Cook" Prize of £20 for Proficiency in Modern Foreign Languages.
- ¹¹ £3 Prize for Chemistry.—Disqualified for £3 Prize for Drawing.
- ¹² £2 Prize for Sound, Light, and Heat.
- ¹³ £2 Prize for Chemistry.
- ¹⁴ £5 Prize for Bookkeeping, Handwriting, and Arithmetic.
- ¹⁵ £3 Prize for Mathematics.
- ¹⁶ £3 for Sound, Light, and Heat.

N.B.—Prizes are awarded only to candidates who are under 17 years of age at the date of the commencement of the Examination, and whose papers, in the opinion of the Examiners, show sufficient merit. No candidate is allowed to receive more than one Prize.

HISTORY VERSUS BIOGRAPHY.

It may be a little bold to attempt to recall the attention of readers to a newspaper article which is now two years old. But whether it be remembered or not, the fact remains that in June, 1891, the *Educational Times* printed a lecture which I had been allowed to give before the College of Preceptors upon the Teaching of History. In the interesting discussion which followed that lecture it was remarked that the speaker had not touched upon the question of biography. I should like to be allowed, even now, though so long afterwards, to suggest a few reasons why, having then a limited time in which to say how history may be taught, I did not say anything upon the way in which I think it should not be taught.

I fancy that I am in a minority when I set my face against a liberal use of biography for teaching young people history. It is so interesting; or rather it is so interesting when Plutarch, or Carlyle, or Macaulay writes it. It is supposed to appeal so strongly to a child, it gives a personal interest to the events in which the great man took a part. In short, the arguments for it are universally known, and all but universally urged. I admit that I have some doubts about its interest, as presented by ordinary writers. The childhood of great men is supposed to fascinate children; and trivial anecdotes, generally of doubtful authority and always of small importance, are pressed into the service to eke out the scanty memorials of the boyhood of those who become illustrious in after years. Alfred's reading book, Washington's axe, Clive's mischief are all to be paralleled, no doubt, in the early lives of those who never grew up to save or found nations and empires. But it is not children who really care most about the doings of children. The child in his ceaseless imitations seldom imitates children. He is fascinated by the unknown glories of mature life. He likes to play at being a man, and he is interested in the doings of men. The really great portrayals of the life of a child, and of the ideas of children, the authoress of "Jackanapes," of "Little Lord Fauntleroy," the author of "Alice in Wonderland," have their most appreciative audience in those who are not children. The child-life presented by the ordinary compiler of biographies interests, I will venture to say, no one at all.

Granting, however, that the grown-up life of a man does interest the young, I would nevertheless deprecate its too great use as a means of teaching history, for it is not history, and it tends to give a false idea of what history really is.

The personal element will never be lost sight of, we may be quite sure of that. The uneducated or the untaught, children, and those who have not read or thought very much, always make the single man of too great importance. Anyone who has, as I have done too often, waded through a mass of historical examination papers done by such as I have mentioned, will remember the scores of instances in which the individual actor, his wants, whims and passions have been exalted above the interests of the nation, the really efficient causes which have been acting in history.

The Civil Wars of England, in the 17th century, appear to half the average examinees of tender age or slender knowledge to have been a personal quarrel between Charles I. and Cromwell. Cromwell declared war against the King, Cromwell cut off the King's head, Cromwell commanded at Edgehill, Newbury, Marston Moor, and Naseby. Cromwell passed the Navigation Act; Cromwell made war with the Dutch. These are all common statements. Phillip II. sent, or even led, the Spanish Armada because he was personally affronted at Elizabeth's refusal to marry him. Wolsey was actuated solely by his desire to become Pope in the whole of his policy. Henry VIII. broke with Rome simply because the Pope would not allow him to marry Anne Boleyn. Joan of Arc drove the English out of France. Guy Fawkes set on foot the Gunpowder Treason. William the Conqueror invented the whole Feudal System. George Washington roused the Americans to resist the Stamp Act. George III. originated the Stamp Act. Such are some of the less absurd statements, with some basis of truth in them, which have actually been sent up to me by writers who have been led to unduly magnify the importance of the person and the will of particular prominent actors.

Nay, so deeply is this kind of idea engrained in many who really know better, that it often needs an effort to remember that Cromwell never commanded in chief in anything worthy to be called a pitched battle before the defeat of the Scots in Lancashire in 1648, one may almost say not before Dunbar; and that when Joan of Arc was burnt at Rouen the English were masters

of Paris, Normandy, much else in Northern France, and of a good deal in the South, and continued to hold some of it for twenty years more. We know that if the member for Cambridge had not sat in the House of Commons, King Charles and his Parliament would all the same have gone to war; and we may surmise that, probably, had Colonel Cromwell never commanded a regiment of horse, the resources of the Parliament, the trained soldiers from the Low Country Wars, the strategic skill of Fairfax, and the efficient Scotch army, would have been too much for the King and his generals. We may feel sure that had Joan seen no visions and dreamed no dreams the lesser country, England, half paralysed by the quarrels of her rulers, would never have permanently conquered the larger country, France. We know that the *beaux yeux* of Anne Boleyn were only one incident in the bringing about of a revolution which had been pending since the 13th century, and which had been all but accomplished by the Act of *Præmunire*. The Stamp Act itself, to say nothing of General Washington's lofty character and moderate military abilities, was but a small matter in helping on a revolt against a connexion which the general colonial policy of all the statesmen of the mother-country rendered intolerable to the Americans.

But the too prominent place given to the study of biography tends to the obscuring of this true historical view. If a biography is written, it must be made important. Every biographer on a great scale is, by the very nature of his subject, tempted into hero-worship. He must make the most of his man. He not unnaturally grows to love him, for he would scarcely have undertaken the task of writing his life unless some attraction had already existed towards him. Even if, as too often happens, the hero be but unheroic in some lights, if his deeds cannot be always adequately defended, yet they can be explained away. As an able advocate finds an interest in the case of the veriest scoundrel whom he is obliged to defend, and is gratified if he can save from the gallows a client who, no one knows better than his counsel, has richly deserved to be hanged, so does the biographer become the unconscious apologist for his hero. But not only so; he makes him important. He is no doubt important, many people are more or less important, and dwelling upon the actions, character, and circumstances of one man tends to enhance our idea of his importance compared with that of others. It may be objected that I have taken exception only to bad or exaggerated biography. I answer that all biography must inevitably tend to become an exaggerated view of one man. It may be a striking portrait. But however good the likeness, and because the likeness is good, we must by looking upon this forget to some extent the multitude of men who should form, not the background only, but the foreground, and the right and left supports, of the principal figure. When the surroundings are well known, when the background can be readily filled in, a study of a whole gallery of such portraits may be of the highest value, and will certainly be a source of the keenest intellectual gratification. But I am considering now the case of the beginners, of those to whom the circumstances are unknown and the distances a blank. They will, moreover, seldom be in a position to have the best portraits presented to them, not those in which the distinguishing features are most truly represented, but those in which unmeaning ornaments and trifling incidents are presented for the sake of some supposed interest. It cannot fail to be the case that those who are introduced to the history of human action by such means, will be hindered rather than helped in understanding what human action really is. We may take the most important of personal actors, a man whose individual genius and ambition had more to do with shaping the course of modern history than any other whom we could select. Napoleon changed the face of Europe, Napoleon made modern France. But even in his case the historical Napoleon is not *le petit caporal*. The green coat and the cocked hat, the white charger, the magnificent military skill and audacity, the vast constructive genius, the awful heartlessness and terrible meanness of the man are not the whole of the man who did the work.

These would have been of little moment without the forces which he directed. What did the work was the *vis fervida* of the Revolution, the great army trained in the revolutionary wars, when only in the history of armies all genius had a chance of coming to the front. Italy and Germany revolting against the remains of feudalism; France fulfilling what she had been taught since Henri IV. to be her destiny, in dominating her neighbours and beating down the house of Austria; France continuing the struggle for ships, colonies and commerce against the exclusive maritime supremacy of England. These were the

forces which made the man Napoleon so important. The department in which he did most, the reconstruction of France after the revolutionary architects of ruin had left a clear field. was a department in which he merely gave employment to the genius of a people. His work there lasted, because there the great French nation was allowed to reconstruct its own institutions after its own centralizing, logical, and symmetrical heart. If we may so analyze the true work of the greatest individual actor, how much more can we successfully treat after a similar fashion the performances of less eminently selfish and self-reliant men. I would not say that we must lose sight of Napoleon, Cromwell, and Henry VIII. in teaching history; but I do urge that those who are already too likely to make too much of them should not be principally instructed in history by a means which minimizes the real sources of historical action. Above all, if attention be directed to these men, let not attention be directed to their clothes, their loves, their hates, their childish actions, wherein they differed but little from Tom, Dick, and Harry, their humble contemporaries.

The forces of history, I am told, are not interesting. As I have said, I doubt if they are singular in that respect in the eyes of the young. The multiplication table is not interesting to any but a few deplorably perverse young minds, but it is a necessary beginning of that which will truly interest some. Real history, well taught, will assuredly interest some, too. If nothing is to be taught which does not immediately interest all, the teaching staff of our schools had better be immediately strengthened on the athletic side, with departments of butterfly catching and adventure-book study added for the less vigorous.

It is not always remembered that history is one of the most practical branches of study which we teach at all. It is indispensable to an understanding of politics, and all our boys, perhaps our girls, will be citizens. They all ought to be politicians after a fashion, not partizans. It is never too early to begin to teach them that politics should not be, and seldom are, a game played by leaders according to their personal whims and ambitions. The tendency is all too great in politics, as in their foundation history, to attach undue importance to some personality. To relegate biography to a subordinate place, to teach the truth from the beginning, is the way not only to improve our national knowledge, but to increase our national use of history.

H. E. MALDEN.

UNIVERSITY COLLEGE OF WALES, ABERYSTWITH.—Of the Scientific Research Scholarships (each worth £150 per annum for two years), established some time since with the surplus profits of the Exhibition of 1851, one is apportioned this year to this College, and the nomination of Miss Mary O'Brien, B.Sc., by the Senate has just been confirmed by the Commissioners. Miss O'Brien proposes to take up the question, important to agriculturalists, of the nitrogen supply of leguminous and other plants. Only one of these scholarships has previously been awarded to a woman. Miss O'Brien is the daughter of Mr. Thomas O'Brien, of Liverpool, and is an Irishwoman. She received her school education at the Friends' Schools, Ackworth and York, and, after teaching for some time at the former institution, gained an open scholarship for Natural Sciences at Aberystwith in 1890. She took her B.Sc. (Lond.) degree last year, with Second Class Honours in both Botany and Zoology, and proposes to carry out her research at Oxford, under Professor Vines.

CITY AND GUILDS OF LONDON INSTITUTE.—We are requested to call attention to the following alterations introduced into the programme of examinations for the Session 1893-4:—(1) An examination in Cabinet-Making, and one in Metal-Work as a branch of Manual Training, have been added. (2) The syllabus in Boot and Shoe Manufacture has been divided into two grades, and separate practical tests are added to each grade. (3) The honours examination in Photography is divided into two sections: I. Pure Photography, and II. Photo-Mechanical processes, and the practical examinations will be held in connexion with the honours grade only. (4) The examination in Cotton-Weaving in the ordinary grade is divided into two sections: I. Plain Weaving, and II. Fancy Weaving. (5) An examination preliminary to that in the ordinary grade will be held in Electric Lighting and in Typography; and the examination in Typography in the ordinary grade is divided into two sections. (6) The syllabus in Silk-Weaving is enlarged so as to include Ribbon-Weaving. (7) The syllabuses in Cloth-Weaving, Flax-Spinning, Hosiery, Goldsmiths' Work, Brickwork, and in other subjects, have been revised. (8) The practice of returning or giving credit for half fees will be discontinued. The fee in dressmaking has been reduced, and the fees in other subjects have been revised. (9) Regulations are introduced into the programme with respect to the preparation of Special Reports on the Examination of separate classes and Inspection of Technical Schools and Classes.

IN A BELGIAN CONVENT SCHOOL.

BY AN ENGLISH GIRL.

My very earliest distinct impression of convent life was that of being conducted—wary, and still almost sea-sick—into a tiny cupboard of plain white deal, containing a small and very hard bed. Three sides of this cupboard were wooden, the fourth merely a linen curtain which drew back on rings. There was a formidable array of such cupboards or berths in the great dormitory. All stood back to back and were open to the air at the top.

Tired as I was, I was too inquisitive as to my fellow-pupils, none of whom I had yet seen, to go to sleep at once. In about half-an-hour I heard the dormitory door unlocked, and a solemn tramp of feet; a stream of girls of all ages filed in in perfect silence; each entered her berth at once and dropped the curtain behind her. In less than ten minutes, the lights were turned down and my noiseless companions apparently asleep.

Just as I had begun to doze off, as it seemed to me, I was awakened by a tremendous outcry from a sonorous voice. I started up, thinking vaguely of fire.

"*Cœurs de Marie et Joseph!*" it boomed.

"*Soyez—notre—réfuge,*" yawned some dozen voices of exasperated girls. The horrid truth began to dawn upon me. It was their idea of the right time to get up. My bed seemed to me the only "*réfuge*" desirable; however, I dressed myself, and none too quickly, for in five minutes at the most the dormitory nun drew back every curtain with a loud jingle; and the drowsy inmate of each berth stepped forth and took her place in the long file.

A bell rang, and we were all marched out of the dormitory and the door locked behind us. Once out of that Hall of Silence the gabble of tongues was terrific. Beyond an occasional "*Douce-ment, mes enfants,*" no one interfered with the hubbub. We all took our places in a long lavatory, where I glared British disgust at a tin basin the size of a soup-plate, a piece of mottled soap, and a phenomenally coarse towel. I had time to look round me then, and it was easy to pick out the English girls; for one thing they were still at their ablutions when the Belgians were ready to go down; for another, their neat heads and trim waists, even in the ugly regulation dress, were a great contrast to the squat figures of the others.

By the time we were ready it was about a quarter to six. "Now for breakfast," thought I. But mass in the Convent Chapel came before that. I was told at the Chapel door that I should be expected to attend morning and evening, but, being a Protestant, should be allowed to take my own prayer-book with me.

Service lasted half an hour, most of the girls yawning with hunger every minute. Once outside the Chapel door they almost rushed to the Refectory.

Hungry though I was, I eyed my breakfast coyly. Piles of bread and scrape alternated on a rusty tin tray with other piles of bread and black treacle—a horribly noisome-looking compound. Tea there was none, but coffee was given us in enormously thick earthenware cups; I waited for milk and sugar till I found that they were not provided. A little way down the table, an English girl had a savoury-seeming omelette before her. I passed down my plate for some, but it was quickly passed back to me again.

"Laura has an Extra for breakfast," I was told. "If you like to ask, you can have an Extra too. Is your father well off?"

"No," said I, feeling rather despondent as the "Extra" vanished down the throat of the heartless Laura.

A Belgian beside me said something eager which I could not understand.

"She says," translated the girl who had enlightened me before, "that she has an Extra too, which she will let you have if you give her a present out of the things you have brought from England. Don't give her anything really *nice*," she added; "if you have a Christmas card, she'll call that a present. They're such *creatures!*"

I nodded violently to the Belgian, who beamed, and transferred the extra to my plate. It was more discouraging than Laura's, being a rather unseaworthy-looking herring; also, she had gobbled up quite half, and the rest was lukewarm and disconsolate. However, as she afterwards accepted a penny almanac *avec empressement*, the bargain was honourable, on the whole. I began to wish I had brought out a box-load of coloured advertisements. I might have fattened on unlimited extras.

I was not long in discovering two things. The first was that

mortification of the flesh was in no sense part of the real *régime* of my convent. Any imaginable luxury would be provided, if the pupil only chose to pay for it. The English girls were especially popular with the good Sisters, because they broke every rule, and paid for so doing. They wore prettily made dresses, contrary to regulation, and looked creditable when the school turned out *en promenade*; they had "Extras" at every meal, and openly reviled the food as "not fit to eat." I remember once a Belgian girl, very poor, who ventured to follow their example. The refectory Sister pounced upon her at once.

"Is it for thee to speak, who payest for no Extras? Remember that the body is nought, that time passes, and eternity arrives."

This last was a very favourite announcement with that particular Sister. She had an air of implying "And *then* we shall see!" which was discomfiting.

My second discovery was that, in spite of the locking of doors and the bell ringing, there were very few stringent rules. There were quite as many play hours as lesson hours—one followed the other regularly, all through the long day. English, Belgians, Germans, we were all supposed to speak French, but no particular pains were taken to know if we did so. As it happened, however, most of us got a good working knowledge of the language, chiefly picked up from the few Belgian girls who were thought good enough to consort with the lordly English.

All our lessons, of course, were in French. We were grouped, on entry, into classes according to our ages, without any care being taken, as far as I know, to ascertain our proficiency and capacities. Hardly any lessons were oral: I suppose there were too many of us. Our papers were collected after a lesson, but we rarely saw them again or heard what was thought of them. There was a public prize-giving once a year, to which stout Belgian mammas would come and see us all given prizes impartially. Crowns were placed on the heads of those whose conduct had been the most stainless during the year. I fear modest merit was generally passed over; at any rate, the prettiest, richest, and most insolent English girls always got crowned. A dear old priest, whom we knew as "M. le Doyen," performed the crowning. The only sentence I ever heard him speak had a secular flavour, "Pretty English Mees—hein?"

The nuns were very popular with us all. The English nun we all adored. She was a fascinating companion, and would tell us stories not at all restricted to the spiritual life. Gossip from England was always welcome to her, and it was easy, when no other Sister was within hearing, to make her talk of the days when she had been a sea-captain's daughter and lived in an English port. She would say long prayers, she told us, when her father's ship was late. We listened, and wondered how she had come to be in a Belgian convent, and if she ever prayed for the ship now, and if her father was still alive. It was difficult to tell the age of any of the Sisters, with their hair all hidden away, but we had an idea the English nun was quite young.

The one exception to the general popularity was a grim-faced Sister, who always sneered at us—or so we thought. We did all we could to show our dislike, during the two hours she was "on *surveillance*" in our recreation room. Our favourite annoyance was to go up some half-dozen times and tell her we could see her hair! This was enjoined by the rules, no looking-glass being allowed in any room, and the nuns always thanked us ceremoniously for the warning. Poor Sister Augustine's voice of concentrated venom, as she said, "*Merci, mon enfant,*" and tucked away the too often imaginary lock, was a huge delight to us all.

On the Feast Day of each nun—for each had her patron saint—we were given a holiday and quite an imposing collation of cakes and wine. As the Sister in whose honour we revelled entered the room the clapping and stamping were always wildly enthusiastic. In course of time, while I was there, the Feast Day of the hated Sister Augustine came round. She entered the room where we were making merry, her grim countenance actually smiling, but not a clap was heard. The poor woman's face fell in a way that made us feel for her, cruel little wretches though we were. "This is too bad! Shame!" cried an English girl, and began clapping. In an instant the whole room clapped and stamped. One unutterable Belgian alone was heard above the uproar, piping out, "Sister Augustine, thy hairs show themselves plainly!"

A religion which seemed to us English girls almost to enjoin frequent holidays and very excellent cakes from Brussels, en-

deared itself to the most bigoted Protestant mind, and one by one we all felt a vocation for taking the veil. I was nearly three months discovering that a cloistered life was the one for me, and I demanded an audience of the Reverend Mother herself. She received me, and my request to be allowed to take the veil at once, with chilling equanimity, I thought.

"Have some cake before we talk," she said.

I felt the fervour dying out of the atmosphere, but I couldn't resist the cake. When I had devoured an enormous lump, the Reverend Mother said kindly :

"I expect to hear that the little girl who thinks herself good enough to be a holy woman has never broken a rule—never speaks English, for instance. *Hein?*"

I hung my head.

"Run away and learn all we have to teach you," said she, "and then we will send you home to Monsieur your Papa, and ask if he has no use for you, that you wish to become a *religieuse*."

The Reverend Mother knew well the value of school-girl fervour of that kind, and of course, moreover, the non-Roman-Catholic children were sent there on the strict understanding that no attempt would be made to "convert" them. This understanding was honourably adhered to, and I think there is no ground to seek a reason for this in the cynical explanation that proselytizing was a luxury the Convent could not afford. But the Protestants, it is true, were good paymasters, and were necessary for the maintenance of the Convent's revenue. Strange as it may seem, many of the girls came from well-to-do dissenting families.

I left the audience-room despondent, but not quite vanquished. That night I took a rosary to bed with me, and began to "tell beads," feeling rather like a Christian martyr in the Catacombs. Unluckily, a special enemy of mine had seen me smuggle in the rosary, and when I looked up from my devotions I found her interesting face, with its tongue out, grinning malevolently at me over the deal partition. She had climbed up by standing on her pillow.

"Dirty Protestant, who mocks herself of our religion!" said she.

My revenge was prompt.

"My Sister, behold Mathilde, who regards me from above!"

The scandalized Sister rushed round to my enemy's berth, and Mathilde's face disappeared with a suddenness suggestive of smart pulling of the legs.

This dormitory was the only room where the discipline really was convent-like and stern. A kind of rage would take the mildest nun if a sound was heard; and one English girl, who went into her sister's berth to ask for a pocket handkerchief, nearly got herself expelled. The rules were strict, also, in forbidding us to kiss one another or to show too much liking for any one girl's society. Groups of two and two were broken up whenever they could be, and the walks were arranged so that we marched three abreast. Those of us who objected to this usually purchased a Belgian "dummy," who would undertake neither to listen to nor interrupt our conversation, in consideration of three black pastilles or one jam earamel, which was full value for the same. A Sister sold us these delicacies every Saturday night at an immense profit.

Altogether, the curious old school was a cruder copy of "the world we live in," and my memories of it are mixed, the pleasant ones predominating. As for the education we got there, my own ease is probably a fair one. I left the Convent able to speak French fluently and with a pure accent; nearly all our Sisters "had a beautiful French," as their Superior often said. I could also write and translate it idiomatically. Having an ear for music, I was allowed to sing in the chapel choir, in spite of my Protestantism; many of us who did so learned to sing quite intricate music at one rehearsal, for we were seldom given more than one before any part of the singing service was altered. I had a working knowledge of ordinary arithmetic, but our good Sisters would have been astonished to hear that mathematics, algebra, or Euclid could have anything to do with "*de jeunes filles*." Those of us who liked to pay for them could be taught painting, drawing, and the piano, by various Sisters supposed to be endowed by the Muses: I was impressed at the time, but I fear the "touched-up" masterpieces that were framed, and the "*morceaux*" that were thumped at our annual prize-givings, were hardly the gems of art that they appeared then to the susceptible mind.

As for the physical side of our education, I hardly see how it could have been improved upon. All our rooms were splendidly large and well ventilated. We had nearly six hours of daily romp-

ing in the fine recreation ground, where we swung, see-sawed, raced, and (I grieve to say) stole and consumed large quantities of raw turnips and carrots from a neighbouring field: we usually bribed a Belgian to do the actual stealing—the rest was ours. These dainties "between meals" never interfered with our appetites at the proper time. This must have been owing to the constant living in the open air, for the food was anything but tempting, though plentiful and good of its kind. English girls were a long time getting used to the almost black, moist bread and the coffee without milk or sugar. We had a beautiful infirmary, but it was nearly always empty. No doubt the early rising, and the strict regularity of our whole day, helped to keep us all so healthy.

There was absolutely none of the depravity among the girls that Charlotte Brontë found in her Belgian school—at least, I never knew of any. I have often heard that very unfortunate establishment quoted as an example of "Continental education," and as a reason why dear Annie or Mary could not possibly be sent "abroad"—a term which "comprises in itself," apparently. Dickens is translated into every European language; it would be interesting to know in how many French Fulhams and Belgian Brixtons, the select seminary of Mr. and Mrs. Squeers, of Dotheboys Hall, is accepted as a "palpitating actuality" and a fair specimen of our English schools. While we were still at the Convent, we abused the food and the life generally; but of all the happy, healthy English girls who have parted with regret from the kind Sisters, very few will be found with much to say against their convent school.

A.

RECOLLECTIONS OF AN OLD PUBLIC-SCHOOL BOY.

THE five-hundredth anniversary of the foundation of Winchester College has brought with it not only a visit from the Prince of Wales and descriptive articles innumerable, but also quite a little budget of books devoted to the history, traditions, and life of "our oldest school." Among these none is pleasanter reading than Mr. Blachford Mansfield's "School Life at Winchester College," recently published by Mr. Nutt. Mr. Mansfield was a "junior" more than half a century ago, when our public schools were as yet untouched by the reforming spirit of the age, and he has many a quaint tale to tell of the old state of things.

FAGGING.

Of course the author has much to say of the absolute authority which the handful of "præfects" or seniors exerted over the rest of the schools, and the efficacious if somewhat barbarous measures by which they maintained it. He compendiously summarizes the functions of a "junior" as follows:—

"The duties of a fag, in the days of which I write, may be more easily described by informing the reader what he had not to do, than by endeavouring to make out a list of his positive duties. I believe when I say that he had not to make the beds, nor to clean shoes, I have exhausted the negative catalogue."

It was the custom to allot each new boy to a Præfect who was said to "teejay" (*protéger*) him. A Præfect who had elementary views as to the best way whereby to most speedily soften the manners of the youth entrusted to him could make it very unpleasant for his ward.

"My old friend, Dummy, was not fortunate in the selection made for him; he was handed over to a tutor who, by way of taking a great interest in his welfare, prevented other boys from thrashing his pupil by operating on him so constantly himself that they scarcely had any chance of so doing. The tutor was tall, thin, bullet-headed, and apparently about forty-five years of age, and he used, from time to time, to conduct his pupil into a quiet corner, and, with a cheerful smile beaming on his countenance, would give himself a few minutes' healthy, but not too violent, exercise. He was economical, and found that a stout cane, tied with wax thread at the end, was a less expensive chest-opener than a ground-ash, which was not only very liable to break, but extracted less entertainment than the thicker weapon. He was not very muscular, or the consequences might have been serious. As it was, wherever Dummy went to bathe, a number of spectators always assembled to see his back, which, from the nape of his neck to his ankles, was a network of intersecting bruises."

The author thinks it did not do Dummy much harm, but it is just possible that Dummy might be of a different opinion. Years afterwards, when the victim casually met his old tyrant, who was then "apparently a dean or bishop, or something of that sort," his old impressions (in one sense at least) were so

strong on him that he shrank away instinctively, "in expectation of the never-failing blow or kick that used to follow immediately on his propinquity."

HOW THEY WERE FED.

Even Mr. Mansfield's cheery optimism—which itself is possibly due, in part, to the enchanting effects of distance—breaks down on the recollection of the way in which dinner was served. The food and drink were good enough, if somewhat coarse, and there was abundance of them; but the unfortunate fag did not have much chance of benefiting thereby.

"The distribution was managed as follows. One of the cooks, escorted by the Præfect of Tub, brought up an immense tray, with a mountain of meat on it; this was taken first to the senior Candlekeeper's end, and then to the others in succession. But only those boys who were at the end at the time it was brought were permitted to take their dinners, except the Candlekeepers, who were allowed to have theirs taken by proxy. As will be seen, it was simply impossible for the juniors to be up to time, the consequence of which was that more than half the dinners were not taken; these were thrown into 'Tub' at the end of hall, whence they were ultimately taken away by some poor women, and I always understood (though I am not certain that such was the case) that the 'Præfect of Tub' got a certain sum for each 'Dispar' not taken, and so had a direct interest in managing that as many as possible should go without their dinner. I will now explain the absence of the juniors; immediately the Præfects were seated, the whole hall resounded with shouts of 'Junior—Junior—Junior,' rising in savageness of tone, as the supply became exhausted; in five minutes all the juniors were darting wildly about in all directions, executing orders received from their lords and masters; some to Colson's hatch for salt, or down into cellar for beer, back to school for something forgotten, into chambers for a pint cup, down to kitchen for gravy, &c., &c. In the centre of Hall stood the senior Candlekeeper and deputy, each armed with a long and supple ground ash, their business being to continue hitting every one who came within reach, so that it was absolutely necessary for every boy passing down Hall to run the gauntlet of one or the other; the only conceivable reason for this extraordinary arrangement being, I imagine, that in order to escape the sticks of the flagellators, the fags dashed passed them as fast as they could, and so got through what they had to do quicker. To escape this purgatory I have known boys lie underneath the beer butts in cellar during the whole of Hall time, and once a wretched fugitive was discovered hidden in the salt tub, into which he had managed to creep, and had let the lid down over himself afterwards."

"MANNERS MAKETH MAN."

Apparently, the junior never dined, unless the Præfect who "teejayed" him was so condescending as to present him with a plate of food, in which case the fortunate youth was exempt from duty as long as he was eating it.

"It was extraordinary how difficult it became to pick a bone, and how long a small slice of meat could be made to last under such circumstances. Knives and forks being rare articles with the juniors, we had some difficulty in getting rid of a dinner when given to us, unless the Præfect was good enough also to lend his implements. I remember seeing Skith with one end of a carcase of a hare in each hand, burrowing among the ribs with his nose and mouth in search of the tit-bits, which, to judge by the delight depicted on his countenance, were still remaining."

"WHO IS THE FOOL NOW?"

Among amusing anecdotes, here is a tale of schoolboy "cheek" which, in one form or another, is probably not unfamiliar to our readers; school history repeats itself so rapidly, that, perhaps, most teachers could furnish not very dissimilar instances of brazen smartness from their own experience.

"On one first of April, an impertinent boy undertook to make an April fool of the Doctor, and accordingly marched boldly up to his throne, and told him that he had torn his gown; and, on the rent not being found visible to the naked eye, suggested that it was the 1st of April; upon which he was told to order his name to the Bible Clerk. When Middle School was over, the Doctor put on his trencher cap, and called out, 'Pincher, Bible Clerk, and Ostiarius!' (which meant that Pincher was to advance to receive his deserts, and the others to assist as masters of the ceremonies). At the moment that the culprit was expecting to feel the sting of the apple-twigs across his backbone, the Doctor threw down the rods, saying, 'Who is the fool now?' and was walking out of school, when the undaunted Pincher jumped up, and ejaculated, 'It's past twelve, Sir!'"

It would be gratifying to know whether Pincher's audacity has stuck to him through life; if so, he ought to have "arrived," as the French say.

ORIGINAL WORK.

The narrow curriculum of those days contrasts oddly with our present system. The author, whose skill in Latin verse-making was not dazzling, did not distinguish himself greatly in the

prescribed studies of the place; he was "much disgusted," he tells us, when he found *pious Æneas* not considered impeccable at the end of a hexameter.

"I was not, however, alone in this want of true poetic feeling. My worthy friend, Podder, one day produced the following pentameter:—

'Lēō rēx bēllūārūm ūt cōētūs ēst pīscūm.'

For the benefit both of those who do, and those who do not, understand Latin, I will mention that the translation of the above was meant to be—

'The lion is the king of beasts, as the whale is of fishes.'

Will Bumpus forgive me if I relate an instance of his ingenuity? He quietly took the following line from Horace, and served it up as an *hexameter* of his own composition:—

'Dūlcē | ēt dē | cōrūm | ēst prō | pātrīā | mōrī. |'

On the inexpediency of this being suggested to him, he was setting to work to alter it; when suddenly a bright thought flashed across his mind; he knew the line was out of Horace, so that, if it wasn't an *hexameter*, it must be a *pentameter*; so up it came—

'Dūlcē ēt | dēcōr | ūm | ēst prō pā | triā mō | rī. |'

The rest of that story is tragic.

SCHOOLBOY "HONOUR."

Mr. Mansfield tells us that the boys were scrupulously honourable in their dealings with one another, though a certain amount of what fastidious people would call theft was looked upon as a legitimate and exciting amusement. Lying to masters, however, was considered the proper thing, when the truth would have brought trouble upon others than the teller of it: perhaps even now traces may be found, among schoolboys, of this "honourable feeling crookedly developed." Here is an example which seems to show that the masters, in some cases at least, winked at the practice.

"The Doctor comes suddenly round a corner, and finds Tibbs mopping the rosy fluid from his nose with a rueful countenance, having just received a sharp back-hander from one of his lords and masters, whose basin he has broken:—

"'Pray, what may be the matter with you?' inquires the Doctor.

"'Fell down and hurt my nose, sir,' whimpers Tibbs.

"Dr. 'But the ground is muddy, and your clothes clean.'

"T. 'Only touched the ground with my nose, sir.'"

The following dramatic scene illustrates more elaborately the same principle:—

"One night, in one of the chambers, the boys were up and amusing themselves with the operation of a 'Toefitying,' which consists in noosing the toe of a sleeper in a piece of string, and then pulling, concerning which pastime more anon. Badger was trying to operate on Reynard, who (though pretending to be asleep, was really wide awake), gently stealing his hand from under the bedclothes, clutched a missile, and launched it at Badger's head, who, being thereby floored, mechanically replied with his extinguished candlestick, extinguisher, snuffers, and all, which unfortunately took effect, and inflicted a deep cut on Reynard's lip. The next morning, as Reynard was not producible, one of the Masters made affectionate inquiries respecting him. On hearing that he had cut his lip, he inquired 'How?' No one had an idea.

"Master. 'Send for Reynard.'

"[Appears Reynard with his head in a sling.]

"M. 'How did you cut your lip?'

"R. 'Woke in the night, sir, and found my lip bleeding; think something must have struck it.'

"M. 'Tell the Senior Præfect in the chamber to come to me.'

"[Præfect appears.] M. 'Toller, what was going on in your chamber last night?'

"T. 'Don't know, sir, as I was fast asleep.' (N.B.—He was eating toasted cheese at the time immediately opposite the scene of action.)

"The other boys of the chamber, being sent for in proper order, some thought they heard a noise, but were certain it was caused by boys from another chamber (the latter part being true for a wonder); another thought he detected Pudding's voice; by a curious coincidence, Pudding happened to have been sleeping at sick-house on that particular night; and so on."

IN PRAISE OF THE SCHOOL.

It is not to be supposed, of course, that the life of the old public-school boy was nothing but brutality and barbarism. A very cursory perusal of such a book as this will easily demonstrate the contrary to any one so mistaken as to hold that opinion. Since it is not so easy to pick out short passages illustrating this as it is to find stories supporting the other side, it is only just to quote Mr. Mansfield's statement of his own feelings about it.

"It must be remembered that it is much mitigated at present, and also that, in a light and somewhat gossiping production like this, there is more movement and life in such anecdotes than in a relation of the ordinary

kindness shown by the bigger to the lesser boys; certainly, I have a more lasting general recollection of benefits received than of cruelties suffered; and in after-life, in the rough struggles of the world, happy is he who has gone through such a training. Here there is no tuft-hunting—wealth and rank have little influence, if the heart is not open and hand skilful. A boy learns to help himself, not to be disheartened in difficulties, and to be prepared for any emergency; and withal a keen sense of honour, friendly rivalry, and patriotic feeling is continually kept in action. Commend me, in a row, moral or physical, to your public-school man; in the former case, he will very probably be endowed with the judgment, decision, and self-reliance so necessary in such an emergency; and in the latter, he will be likely to stand firm, and know the use of his left hand as well as his right, and when, where, and how to bring both into play."

THE OATH OF LOYALTY.

The loyalty to the school, to which the author bears witness both consciously and otherwise, brings us to the subject of the oath-taking, which is thus described:—

"Once a year all the boys who had passed the age of fifteen (and who had not previously gone through the same ceremony), were marshalled into Chapel, and, under the inspection of 'Semper Testis' (the legal *aide-de-camp* of the College authorities), went through the form of taking an oath. I have no distinct recollection of the form of the proceeding (it is now abolished), but I think the official above-mentioned read out a Latin document, and we were supposed to say Amen. I believe the gist of it was that we were to defend and befriend the college to the best of our ability, and never tell anybody what went on within its walls. I am sure I should require no compulsion to carry out the former obligation, should the occasion occur, and I had any possible means of fulfilling my duty; and if I have done no more harm in writing this little sketch of our proceedings at Winchester than infringing the latter, my conscience will not much be troubled. Although the making a number of thoughtless boys go through a ceremony of this kind may seem objectionable, yet it is not the part of a Wykehamist to exclaim against it, as, according to well-authenticated tradition, Cromwell would have destroyed the college, had he not yielded to the urgent representations of one of his officers, who was a Wykehamist, and, mindful of his oath, succeeded in saving the noble establishment from its impending fate."

One likes to think that the "well-authenticated tradition" is true.

"ALL persons interested in the advancement of learning" have been invited by an enterprising firm of manufacturers in the United States to compete for a 150 dol. bicycle by searching for errors in schoolbooks, the finder of most blunders to win the prize. It appears that some of the books of high scholastic authority and almost universal use have done some dreadful things which have been already unearthed by this pursuit of knowledge upon a safety cycle. For example, a "Second Book of Picturesque Readers" asserts that a "fat cod does not bite readily"; whereas "even the children smile" at the notion of a cod being fat under any circumstances. Another critic unearths the passage, "'I am going in,' said the morning-glory vine. Then it began to creep through a crack in the window frame, and in a week's time it hung in a lovely festoon from the curtain, and had thrown its slender tendrils around the marble statue of the little angel." "Statement has been changed to conform to fact," reports the crushed publisher of this terrible statement; whence it is to be concluded that the American non-monopolists of brains are going to pounce down upon the statements of those wicked people, the poets and story-tellers, who say the thing which is not. Obviously to allege of a "morning glory" that it spoke cannot possibly be true. At the same time, the pillorying of misstatements and getting them altered is a praiseworthy undertaking, and makes one long for some public-spirited person to make a similar endowment of research in other fields. There is the political, for example: though whether any prize would compensate for the labour of competition is rather an open question.—*Globe*.

A TRUANT'S ARITHMETIC.—Henry Price, aged eleven, was brought before the Lord Mayor last week on a charge of wandering in the City. The School Board officer said that the lad said that he had passed the fifth standard, and he asked him what arithmetic he had to do in that standard. Price replied, "Oh, you have to put a lot of ones down, and then bring them to ones." (Laughter.) The Lord Mayor remanded the lad for a school to be found for him.

EDUCATION OF THE DEAF AND DUMB.—A touching sight was witnessed at the Grafton Gallery last week, when the pupils of the Institution for the Deaf and Dumb, in Fitzroy Square, received their prizes at the hands of the Duchess of Fife. It was wonderful to hear them answer questions in their pathetically harsh voices, their answers often displaying a sound and clear knowledge of the subject—arithmetic, history, or geography, as the case might be. Their lip-reading was extremely quick and accurate, the teachers seldom having to repeat a question. In the course of a kindly speech by the Duke of Fife, we were sorry to hear that this most deserving institution is urgently in need of funds.

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LONDON, AUGUST 1, 1893.

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THE SCHOLARSHIP RECORD.

[Schools printed in *italics* are those in whose totals close scholarships are included. The names following the schools are of the headmasters; the figures give the average number of boys during the year. The schools are arranged in order according to this year's results.]

	1886-7	1887-8	1888-9	1889-90	1890-1	1891-2	1892-3	Total.
TEN SCHOLARSHIPS AND OVER.								
<i>Merchant Taylors'</i> (Rev. W. Baker, 520)	10	15	15	22	19	17	20	118
St. Paul's (Mr. F. W. Walker, 630) ...	21	13	18	14	16	17	16	115
<i>Winchester</i> (Mr. W. A. Fearon, 400) ...	6	10	12	11	8	9	15	71
<i>Eton</i> (Rev. E. Warre, 1,000) ...	11	8	6	7	12	12	13	69
Rugby (Rev. J. Percival, 490) ...	6	3	2	7	8	10	13	49
Marlborough (Rev. G. C. Bell, 590) ...	6	10	9	10	13	10	12	70
Charterhouse (Rev. W. H. Brown, 515)	6	2	6	8	6	8	12	48
<i>Manchester</i> (Mr. J. E. King, 820) ...	12	12	13	11	9	13	10	80

SIX TO NINE SCHOLARSHIPS.

<i>Blundell's</i> (Tiverton) (Mr. Francis, 270)	4	2	4	5	5	5	9	34
Dulwich (Mr. A. H. Gilkes, 613) ...	2	5	14	11	11	11	9	63
<i>Westminster</i> (Rev. W. Rutherford, 230)	7	8	10	8	11	9	9	62
Christ's Hospital (Rev. R. Lee, 650) ...	6	7	7	8	10	7	6	51
City of London (Mr. A. T. Pollard, 695)	7	6	2	8	7	4	6	40
Clifton (Rev. M. G. Glazebrook, 640) ...	9	15	10	12	11	14	6	77
Harrow (Rev. J. E. C. Welldon, 600) ...	3	1	4	4	6	7	6	31
Shrewsbury (Rev. H. W. Moss, 300) ...	4	8	4	4	1	5	6	32

FOUR AND FIVE SCHOLARSHIPS.

<i>Haileybury</i> (Hon. & Rev. Lyttelton, 400)	4	5	2	1	3	1	5	21
Rossall (Rev. C. C. Tancock, 390) ...	5	6	9	3	5	3	5	36
Birmingham (Rev. A. R. Vardy, 420)	4	6	0	6	6	5	4	31
Canterbury (King's) (Rev. Field, 150)	0	2	0	2	4	2	4	14
Fettes (Rev. W. A. Heard, 212) ...	2	0	2	0	1	2	4	11
King's Coll. Sch. (Rev. C. Bourne, 240)	0	5	3	1	3	2	4	18
Malvern (Rev. A. S. Gray, 230) ...	0	5	2	0	4	9	4	24
Oxford (St. Edward's) (Rev. Hobson, 89)	0	1	0	1	1	0	4	7

Pity for the overworked state of the story about the Senior Wrangler who read through "*Paradise Lost*" and then remarked that it was "all very pretty, but he didn't quite see what it proved," prevents one applying it to a table such as this; yet it probably describes the experienced teacher's feelings after glancing at it. The schoolmaster knows very well why no inference of any kind (except as to the ignorance of the general public with regard to educational matters) is to be drawn from "statistics" of this sort, even where they are perfectly accurate; at the same time, he finds natural interest in the mere enumeration of schools with their headmasters and totals and the thoughts and recollections they call up to him, and he does not dislike them the more because they and the compiler's remarks on

them are to him more amusing than instructive. But, unfortunately, the "Record" is so published as to appeal mainly to the layman, to whom the *Westminster Gazette* undoubtedly means it to "prove" something, as these lines plainly show:—

"We are, of course, aware that a scholarship record is not a complete test of the efficiency of the several schools. But nobody denies that it is some test, and most people who have given careful attention to the matter will probably agree with us that it is the best criterion available."

Now, even people who have *not* "given careful attention to the matter," must be perfectly well aware that you can get no sort of idea of the efficiency of a whole school by an examination of the few picked boys who are, in the judgment of their teachers, far superior to the rest of their companions in attainments and acuteness; to maintain the opposite would be as wise as to gauge the value of a basket of strawberries by the attractive specimens which the vendor considerately places at the top. That there are clever boys in the school and good strawberries in the basket, we must all admit; beyond this, without further investigation, we cannot go. But even if the "efficiency" of a school could be measured with anything approaching accuracy by the application of a purely intellectual test to a selected portion of the Upper Sixth, the *Westminster's* comparative tables would remain equally futile. How can you draw any inference from the fact that Merchant Taylors' gets one scholarship per 26 boys, and St. Paul's one per 39·4, when you know that the former has several scholarships for which the latter is not allowed to compete; that St. Paul's, on the other hand, yearly attracts a considerable number of the cleverest little boys by its valuable entrance exhibitions; and that a Balliol or Trinity honour is reckoned as showing no more "efficiency" on the part of the school than a much inferior achievement at the most insignificant college? Is Bedford many times less "efficient" (ten times, at least, if we take the figures) than Eton, because one of Mr. Phillpotts' 790 is credited with a "win," while thirteen scholarships are divided among Dr. Warre's thousand? The schoolmaster will not be deceived by such a statement; but the public, not remembering or not knowing that Eton has its close scholarships, and that the cleverest Bedford boys do not necessarily, or even usually, go to the Universities, may easily be misled. Certainly the "criterion" breaks down here. It breaks down more amusingly when we endeavour to apply it to the same school in different years; Merchant Taylors' is apparently twice as worthy of our esteem now as it was in 1886, but we must not pay it so much honour as we did in 1889, when it had twenty-two scholarships. Fettes must have been infinitely worse in 1889 than it was in the following year, as a comparison involves the ratio 0 : 1. But could any test be more foolish than one which credits a school with a certain respectable efficiency if it has one single smart and lucky boy, and ignores it entirely if it has not; which reckons as a distinction a close scholarship, and disregards success in a stiff competitive examination such as Woolwich or Sandhurst? It is as sensible to try and get an idea of the physical education of our boys from the number of cricket "blues" among their former schoolfellows—which by the way is what our contemporary would apparently have us do. Thus it moves no surprise in us to learn that history is a "speciality" at the schools which get a scholarship apiece in it, or that a "corner" has been established in

another subject by a school that gains all but one of the awards for it "in the market." The language of the soap advertisements and the money-market is not unsuited to this way of treating education.

Prize-givings are going on all around as we write these words, and each school is justifiably enough taking credit to itself for its successes during the past year. There is no fault to be found with a moderate amount of self-glorification on such occasions, for there "the thing is in its place," and harmonizes well with the civilities masters interchange with boys from the platform and otherwise, when they are just about to separate for a good long time. Yet even here we ought to guard ourselves carefully against impressing too strongly on ourselves, on the minds of the public, and above all on the boys we strive to educate, the importance of mere success at examinations. The warning ought not to be needed. None so well as educators should know the dangers arising alike from neglect of the boy who will not "do the school credit," and from over-attention to the boy who will—the danger, especially in the latter case,

Lest, having spent for the work's sake
Six days, the man be left to make.

As soon as the school vacation period draws near, the bitter cry of the British parent is heard in the land. "Paterfamilias" writes to the papers to complain that Tommy's holidays and his bill are too long; "A Man of Business" confides to the public that our commercial supremacy is being undermined by compulsory Greek; and "Mother of Seven" laments that she can only have the society of all her seven dear ones at Margate or Biarritz for such period as is common to their seven separate sets of holidays. "Mother of Seven," even if she exaggerates her grievance, has undeniably some just cause for complaint; no schoolmaster will be so stony-hearted as to refuse her his pity, though it does not appear that he is very ready to alleviate her woes by any active measure. True both the Headmasters' Conference and the Headmasters' Association have made an attempt to introduce something approaching uniformity into some of our holiday arrangements at least; but these endeavours have not hitherto been so successful or so comprehensive as to make matters appreciably better. Vacations at the same season of the year in schools of the same class continue to have each their own limits, and even when they are of the same magnitude they obstinately refuse to coincide. Easter of course presents the really "shocking example" of chaotic independence; but Christmas is in some respects nearly as bad, and the want of system is only less felt at the present time of the year because the summer holidays are long enough to make a few days at either end comparatively unimportant.

It is difficult to see that any single advantage, however trifling, arises from the way in which our schools thus ignore each others' arrangements and the comfort and advantage of the boys and girls in their charge. On the other hand, no very considerable efforts would seem to be required, if the scholastic profession is willing, to remedy this state of things. We do not indeed expect that the great public schools will condescend to recognise the existence of their fellows; each has its own traditions and each is a law to

itself; moreover, it must be admitted that the inconvenience arising from the circumstances we allude to are much less felt among the wealthier classes. It is the middle-class parents and their offspring who suffer from them most, and it is to the headmasters of middle-class public and private schools that we have to look for a reform. There is no need for them to have a *plébiscite* of parents (as has been tried on a small scale) in order to find out what are the most convenient dates; the parents care very little as to that, and will be glad enough to accept the teachers' views, as they ought to do. Nor of course is it to be supposed that such absolute uniformity as prevails under State-regulated education—as in France, where this year all the *lycées*, for boys and girls alike, break up on August 1st, and reassemble on October 2nd—is necessary or even desirable. Slight differences, no doubt, there must be; all we ask is that they be not more than slight. Some years ago schoolmasters and schoolmistresses might have refused to move in the matter on the ground that they had no adequate machinery for inter-communication; but to-day, what with our conferences and associations and guilds and the like, there can be no justification for such an excuse. The only serious objection to the reform is that it would deprive the sturdy Briton of three legitimate opportunities per year for grumbling, and the journalist of an equal number of occasions for facetious "copy"; but perhaps this need not be allowed to stand in our way.

WE welcome in pamphlet form the address of Dr. Dukes on Work and Overwork, which he delivered before the last Teachers' Guild Conference at Oxford. He gives us in an authoritative manner, and with the support of tabulated figures, most of the information a schoolmaster will need for the correction of his own practice. He pleads for rest intervals "when the teacher may yawn unobserved," for longer hours of sleep for the pupil, and against the increasing severity of "superannuation" in some public schools. It would seem that the circle of his juvenile acquaintance is to some extent exceptional, including children "who work at lessons during meal times, as well as in every spare moment, and, when unfinished," continue them furtively in bed, and presumably under the clothes. There is also a boy of fourteen who gets in fourteen hours' work a day, but the full data of the estimate of work here is not stated.

Apart from these horrors, the writer is singularly free from the prevailing characteristics of our medical critics. There is a remarkable absence of that polemical tone that distinguishes most pamphlets of this class. Doubtless Dr. Dukes's connexion with Rugby has brought him into sympathy as well as contact with schoolmasters. Too often we are simply scolded. Such phrases as "so-called higher education" and the like, designed apparently entirely for our irritation, abound in almost all medical contributions to educational science. A recent article in the *Medical Magazine*, for instance, culminated in a vigorous attack on the higher education of women. This controversial style, by appealing to class sentiment, we think, eminently calculated to defeat the object of the communications made. And our hygienic instructors also provoke us only too often to disregard what is really valuable in their utterances by entirely unwarrant-

able adventures beyond their proper province. Health is doubtless a great factor of happiness, but the view implicitly conveyed that intellectual power or moral elevation are conditioned by bodily health is not scientific fact, but materialistic theory. Even Dr. Dukes is not entirely free from this professional weakness. "To what height might Carlyle not have attained," he asks, "if he had had the benefit of the guidance of a scholastic physician?" To really believe this blood-corpuscle theory of greatness, one has to deny half of the greatest men that have lived, and to shut one's eyes to the general presence of the quite wholesome dullards among us. And when these medical teachers of ours pour the vials of their exuberant contempt on the anæmic, dyspeptic, and consumptive, on "pantaloon women," and the like, one is tempted to accuse them of a certain insensibility to the possibility of their words reaching one or two here and there who may consciously belong to these classes. After all, the essence of the human being is the mind, and though a cultivated mind in a weak body may mean sorrow, a weak mind in a cultivated body is often, in another way, an infinitely more sorrowful thing. This is clearly forgotten by most of our medical critics, and it is particularly agreeable to notice one pamphlet in which such forgetfulness is at least not glaringly apparent.

NOTES AND SUMMARY.

PERHAPS the most important appointment yet made in connexion with technical instruction is that of Dr. Garnett to the post of adviser to the London County Council. Dr. Garnett's name has long been known to the educational public in conjunction with the Durham College of Science at Newcastle, where he has held the position of Principal and Professor of Mathematics. It is largely owing to his energetic work there that the College has widely extended its sphere of influence during the last few years and technical instruction in the North has been so vigorously taken up. Dr. Garnett was educated at the City of London School, and St. John's College, Cambridge; he graduated as fifth Wrangler, and was elected a Fellow in 1874. He was Demonstrator under Clerk-Maxwell at the Cavendish Laboratory, until he was appointed to a Chair at Nottingham, which he left for Newcastle in 1884.

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THE vacancy which Dr. Garnett filled at Newcastle was occasioned by the resignation of Prof. Steadman Aldis. Mr. Aldis accepted the Chair of Mathematics at Auckland, from which he has just been forced to retire because the Governors of the College are desirous of economizing. A fierce feud is raging in the New Zealand papers and elsewhere about the ethics of this proceeding on the part of the authorities. It would be a graceful act on the part of the Newcastle Governors to offer Mr. Aldis his old position.

THE Governors of St. Olave's Grammar School, Southwark, have elected Mr. W. G. Rushbrooke to the headmastership, vacant by the death of Mr. Johnson. They could scarcely have found a better man for the post, for Mr. Rushbrooke has for twenty years done most excellent work at another great London day school. He was educated at the City of London School, whence he gained a scholarship at St. John's College, Cambridge, graduating as 6th Classic in 1872, and becoming a Fellow of the College in due course. He also took the London B.A. degree. Returning to his old school as Classical Master under Dr. Abbott, he has remained there till now, winning the esteem and affection of several generations of boys, and taking a leading part in all matters connected with the welfare of the school. An "Old Boys" dinner would have been as incomplete without his presence and kindly words, as it would without a speech and song from the Rev. "Joey" Harris. Mr. Rushbrooke is known to the small circle of profound theological scholars by a weighty work on the Synoptic Gospels, and to schoolboys by a Greek Reader, in which *σχολαστικός τις* figures with pleasurable frequency.

PRINCIPAL PETERSON, of Dundee University College, refers in his annual report to the friction between the College and St. Andrews University, which is exercising a prejudicial effect over the former. In the year just concluded, Dundee had only 203 students as against 242 in the previous year, and the falling off is put down to the uncertainty which exists as to the future status of the College. It is to be hoped that the present regrettable deadlock will not be of long continuance.

THE *Athenæum* of July 22nd contains its annual review of the public schools. The obituary includes Mr. Grundy, of Malvern; Mr. Jerrard, of Portsmouth; and Dr. McDowall, of Highgate. In connexion with the appointment of Mr. Pollock to succeed Mr. Wickham at Wellington, the writer points out that the inevitable divergences of opinion between the civil and military elements in the governing body "tend to make its headmastership one of the most anxious and difficult educational offices in England."

"To make and keep the school predominantly classical disappoints certain aspirations which were largely instrumental in its foundation; to 'modernize' it more completely is to throw it out of line with the schools with which it has hitherto held an honourable rivalry. It is not easy to secure adequate self-government and wise prefectorial authority, except by means of able boys staying out the full period of boyhood at the school. All will desire a happy fortune to Mr. Pollock in his difficult task. Of the retiring head master all will say that the sound tradition that headmasters should be scholars of the best sort and preachers of exceptional power has seldom been better exemplified than in him. There are still distinguished scholars—let Westminster and Harrow, among others, bear witness—among our headmasters; but there are signs that, in the multiplicity of functions now imposed upon a headmaster, the grace and influence of letters and scholarships are being pushed to the wall. Mr. Wickham has well earned his rest, but he can ill be spared. The kindly spirit of Horace, that owes so much to him, will surely convert to a compliment that momentary depreciation of men who contrive at once *grammaticas ambire tribus et pulpita*."

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In conclusion he refers gracefully to the "anniversaries and retrospective enthusiasm" with which "the public school air is thick."

"Marlborough is celebrating its jubilee, and reminding us thereby (what we might well forget otherwise) that it is a new school. The lifetime of men not yet old covers the whole of its career—yet does it not now seem, like Clifton, as if it had always been there? The honour of this signal success must be shared by many; but, were it possible, a special wreath should be laid on the 'vast and wandering grave' of Bishop Cotton, and another put on the head of the Dean of Westminster."

And while Marlborough is looking back with proper pride on the work of its fifty years, Winchester celebrates the glories of its five-hundred.

"It is strangely difficult to realize that this public school system, with its immense social preponderance in England—this system which, both in its merits and its faults, seem to have no exact counterpart in the world—should have grown from Wykeham's simple provision for the training of pupils, mainly for the priesthood—a kind of seed plot for the garden of New College. It is a 'strange eventful history' of development, as though a grain of corn had, in the lapse of years, produced not only a cornfield, but rose-gardens and vineyards too. There is but one reason against our pride in our public schools, and that is that they have constantly been too proud. Pride has limited their aspirations and their intelligence and, pitifully often, delayed their reform. But some divinity of England has shaped their ends, though men have rough-hewn them."

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CONCERNING the Headmasters' Conference and its discussion on religious teaching, the writer thinks that the manner in which the debate was initiated was not very wise, but he is far from underestimating the importance of the subject:—

"There is a real question at issue—a question which can be spoken of with frankness, and entirely apart from these ill-timed personalities. It is clear that among headmasters, as among parents, a good many individuals desire to emphasize dogmatic teaching and definite doctrine—or, as its enemies would call it, sectarian instruction—at the public schools. Where the school is by statute a Church of England school, they would like it to be very definitely an Anglican seminary; where a freer system of admission prevails, they would like the religious training of the school to be, so to speak, in watertight compartments; they think the intermixture of boys of various creeds tends to laxity, compromise, indifference, and that definite barriers against these evils must be maintained: the 'pious founder' argument (with the usual reservations) weighs much with them. There is nothing ignoble, unless a touch of obscurantism be so, in such a crusade; neither will any one who has read the history of the Oxford Movement be inclined to deny the possibility of a handful of

zealous enthusiasts 'winding-up the nation'—or the public schools—to the level of dogma.' It is not in reprobation of their ideal that we write, but to point out where resistance to it is to be expected, and what changes must precede or accompany its fulfilment."

Of the constitution of the Conference itself he remarks that "so long as we take it for a parliament, discontent is natural; view it as a biennial debating society and the illusion is at an end."

A WRITER in the *New Review* has made the astounding discovery that at Eton, Winchester, and Harrow "an attempt is made to convert the schoolboy into a combined Chesterfield and Cocker," with consequences profitable only to the crammer. He regrets that "education does not nowadays mean putting knowledge into a boy's head," and declares that a lad of thirteen "must be already stuffed to cracking with the literature of the ancients and with the exact sciences" (!) to get an entrance scholarship; whence, perhaps, our readers may gather that his knowledge of the subject he deals with is as profound as his opinions are valuable. "Vox in Solitudine Clamantis" (as he calls himself) has nothing useful to say that has not been repeatedly and generally much better said before, and he throws away any chance he might have of being taken seriously by his absurd exaggerations. His discussion of the moral "canker of the public school system" is superficial in the extreme; it were surely better to avoid the terrible subject than to handle it in such an ineffective way.

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A LITTLE later on—about the time when the Sea Serpent and the Big Goosberry appear—we may expect the usual queer stories of schoolboy blundering and ignorance. "Vox Clamantis" leads off with a couple:

A sorry tale might be told of exhausted and enfeebled brains and stunted forms; many a merry one is told of the quaint other-worldliness of these paragons. One who has since risen to distinction as a professor at a Scotch University was asked at school, "In what work of literature does a character named Jessica occur?" The answer came with alacrity, "In a small twact called 'Jessica's First Pwayer.'" He knew all the adventures of Ulysses and Æneas, but was sublimely ignorant of the "Merchant of Venice." I cannot remember whether it was a scholar or one of his oppidan brethren who, on being asked, "Who is the Archbishop of Canterbury, Lord Chancellor, and President of the French Republic?" replied—

"Archbishop of Canterbury	...	Lord Gladstone.
Lord Chancellor		Mr. Bradlaugh.
President of the French Republic	...	M. Labouchere."

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Now, as these are meant to point our critic's moral as well as to adorn his tale, it may be just worth pointing out that neither contains anything necessarily reflecting upon the schoolmasters of the boys concerned. There is no reason why a little boy who says "twact" should have read the "Merchant of Venice," which is not exactly food for babes; and there is no reason why a Scotch professor should not have read in his childhood the pretty story alluded to. The Etonian who suggested that "Lord Gladstone" was Archbishop of Canterbury must have come from a strangely constituted and very delightful family circle, where any reference to politics of Church and State (and all newspapers) were taboo. But "General Knowledge" papers are set for a distinct purpose, and are not wanted to test subjects taught in school; there the teacher does not waste his time over imparting miscellaneous "topical" information, which every boy picks up as soon as he begins to read the journals, and generally long before.

THE Duke of Devonshire presided over the sixth annual meeting of the National Association for the Promotion of Technical and Secondary Education Association at Dean's-yard, Westminster, on the 24th ult. He referred to the success which the Association had achieved in promoting public interest with regard to technical education, and in securing public funds to carry it on. This success has been so rapid that the public were even yet not quite ready to avail themselves of the advantage offered them, and some members of the committee thought it might be advisable that another Royal Commission should be appointed to collect and systematise information with a view to the more harmonious working of the various agencies that had been established. In regard to secondary education there was little progress to record. Sir H. Roscoe presented the annual report, and Mr. Mundella, in moving its adoption, said that for himself

he thought the suggestion of a new Royal Commission an excellent one.

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In the Association's current *Record* (which is an exceptionally good number) we find some interesting, if not very convincing, arguments against the objections entertained by the College of Preceptors, and other scholastic bodies, to the Secondary Education Bill. On one point its remarks, as representing the official views of the Association, may particularly interest some of our readers:—

"The further requirements of the teachers' organisations, namely, that they should be represented on the local committees, that all existing efficient private schools should be protected from 'factious' competition, that scholarships should be tenable at them, and facilities provided for converting them into public schools, are both reasonable in themselves and quite consistent with the principles of the Bill—subject, of course, to the generally recognised rule that aid from the public purse involves some amount of control by representatives, either direct or indirect, of the public."

BROMSGROVE SCHOOL, which under the headmastership of Mr. H. Millington long since emerged from obscurity, is now pressing on to take its place among the leading public schools. It has lately had a considerable addition to its buildings. A sum of £10,000 has been raised for the extension, and a new "House" has already been opened. It bears the name of Lyttelton, in recognition of the services rendered to the school by Viscount Cobham.

THE death of Professor Lushington, at the age of 82, removes one of the few surviving links with the generation of Tennyson. Mr. Lushington (says the *Scottish Leader*) spent practically his whole working life in the Chair of Greek in Glasgow University, a post for which he had the man who was afterwards Archbishop Tait amongst his competitors when he received it at the age of 27. No man was ever more loved or esteemed by his students, and his classic learning was even less the pride of his College than "the pure and lofty character" which all who knew him agreed in awarding to him. When he was proposed as Lord Rector of Glasgow no opponent came forward, for the only time on record in the history of that contentious office, a fact which bears strong testimony to Mr. Lushington's personal popularity. But his best epitaph and assurance of immortality is to be found in the noble lines in which Tennyson, whose sister he married, refers to Mr. Lushington, in the last division of "In Memoriam":

"And thou art worthy; full of power;
As gentle, liberal-minded, great,
Consistent; wearing all that weight
Of learning lightly like a flower."

* * *

In Lushington we lose an aged scholar, whose work was done; but by the early death of Henry Nettleship, the Corpus Professor of Latin at Oxford, we are deprived of one from whom something had been received, and much greater things expected in the future. As retiring and as careless of applause as Lushington, he was very little known to the outer world; but all who had the privilege of knowing him at all intimately find it difficult to speak too highly or too lovingly of him.

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"His modesty and diffidence," says the *Speaker*, "and his avoidance of everything that might seem calculated to catch the public ear, kept the knowledge of his gifts confined to a comparatively narrow circle. But within that circle of competent judges his reputation in his own studies stood second to that of no Englishman of this generation. His accuracy, and his willingness to take the utmost pains to exhaust all that had been written or could be ascertained on a given topic, were unbounded. The vast scheme he had projected and partly carried out for a new Latin dictionary (some of the materials are, we believe, in print), though its very comprehensiveness made his progress with it slow, evinced both the grasp he had of the subject and the labour he was prepared to devote to it. Like the late Professor Conington, whose disciple and intimate friend he was, he had a conspicuous gift for discerning all the delicacies and fine shades of language. Like him, he had an exquisite literary taste, which was no less noteworthy in dealing with ancient authors than in his mastery of modern literature—German as well as English—and an admirable power of critical discrimination."

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"THOUGH he lived primarily for scholarship, he was actively interested in all educational questions, and in University matters was a consistent Liberal, in the true sense of the word; that is to say, he was always eager for fresh light, and always willing to try every plan of reform upon its merits, apart from any prejudice or prepossession. He took from the first a very active part in the movement for extending University education to women, and was willing, both in that and any other work which commended itself to his sympathies, to spend his own time and strength ungrudgingly. This disinterested unselfishness, accompanied by a strong sense of duty, and an extraordinary simplicity, sweetness, and gentleness of character, made him one of those who were most respected in Oxford, as well as specially beloved by the inner circle of his friends. The loss which the University suffers by his death is great, and indeed, so far as can now be seen, irreparable."

THE hearing was commenced on the 26th ult., at the Chester Assizes, of the action brought against the *Weekly Dispatch* by Miss Frances Hughes, late Principal of the Women's Hall of Residence at Bangor. The plaintiff alleges that the newspaper's comments on her actions at Bangor were libellous and untrue.

Petitions against the Welsh University Charter have been presented by the Carnarvonshire County Council, which opposes the entire scheme; by the County Council of Glamorganshire, praying for a slight relaxation of the conditions of residence; by St. David's College, Lampeter, against being excluded from the scheme; by twenty-four inhabitants of Aberystwith; by Mr. Lewis Morris, praying for the inclusion of St. David's College, Lampeter; and by Mr. D. A. Thomas, M.P., and Mr. Byrn Roberts, M.P., against the principle of a residential University.

The Education Department has issued the report of its committee on school attendance and child labour. It is a valuable document, especially as showing the strange anomalies that exist in the law as it now stands. One of these is that, while there is legal protection for children employed in coal-mining above ground between twelve and thirteen years of age, there are no similar regulations if they are employed below ground. This is quite a unique illustration of the old proverb, "out of sight out of mind"—so far, at any rate, as the poor "pit laddie" is concerned. It seems, also, that there is the widest diversity as to the standard of education which is supposed to exempt a child from compulsory attendance at school. In some parts of England Standard Three is enough, while in others Standard Seven is enforced. The report appears to show that in France, Germany, and Switzerland they manage these things better, or, at any rate, more consistently.—*Daily Telegraph*.

A writer in one of the morning papers, who has just been up for the Intermediate Examination of the London University, cites an instance of the utter want of reflection on the part of the examiners in setting this year's questions. One of the problems given was this—"How many different sets of ladies' and gentlemen's doubles may be arranged at a lawn tennis party of three ladies and three gentlemen?" The candidate referred to professes to know his permutations and combinations well, but he does not know either what ladies' doubles are or gentlemen's either. Scores of country schoolmasters and other candidates must have been in precisely the same condition of ignorance, and it might happen that the want of the answer might seal their fate at the examination. Examiners who are guilty of such a lapse of discretion should not be again entrusted with the setting of an examination paper. Perhaps the best avenue to their common-sense would be, before admitting them as examiners, to subject themselves to an examination, and to set them papers couched in the slang of games of which they know nothing.—*Liverpool Mercury*.

The Archbishop of Canterbury presided over the annual meeting of the subscribers to the British School at Athens. The annual report of the managing committee stated that the past year had been one rather of quiet progress than of sensational achievement. The work at Megalopolis had been carried to completion by the clearing out of the Thersilion, and this very interesting building and the theatre now present great attractions to all visitors to Megalopolis. The Archbishop of Canterbury said they must all agree that the Hellenic Society was using with the utmost skill and care the very small funds entrusted to it for the discharge of very great work. The excavations at Megalopolis were certainly a very important work, and if carried out thirty or forty years ago our fathers would have gone wild with delight at the result. The city was two miles long and a mile wide, and its romantic and historic interest was marvellous. It presented, perhaps, the grandest specimen of a theoretical constitution which the world had ever seen, providing for a mighty assembly of 10,000 citizens. In the great assembly hall, by a marvellous arrangement of columns, the view of the orator was not in the least interrupted, and every one of the audience of 10,000 could see and hear the orator well.

By the death of Herr Arthur Kube, in his thirty-eighth year (says the *Daily News*), schoolmasters and schoolmistresses resident in the city of

Berlin are made happy in their old age by a legacy of from five to six millions of marks. Herr Kube, in leaving this amount of capital to the city, desires that an institution shall be founded for old schoolmasters and schoolmistresses whose pensions are not sufficient to maintain them as their positions demand. The recipients of this charity must be Protestants. The two sisters of the testator, with other relatives, receive legacies of the interest of this sum, and after their deaths their shares will go to swell the capital in the hands of the Berlin magnates.

The death is announced of the Rev. C. E. Moberley, M.A., in his seventy-fourth year. He was educated at Rugby under Arnold, and at Balliol, and ordained in 1846; he was subsequently appointed first headmaster of Canon Woodard's new college at Lancing. In 1859 he was appointed by Dr. Temple assistant-master at Rugby, a position he held for some twenty years.

Two American millionaires have recently died, who have endowed educational institutions with amounts such as none of our countrymen have ever devoted to like purposes. Mr. Anthony J. Drexel gave something like half a million (pounds) for promoting technical instruction in Philadelphia; but this is paltry beside Mr. Leland Stanford, who bequeathed some five millions to the University of California.

A correspondent informs us that the projected "Berlin Gymnasium for Girls," which is to be opened next October, has found a home in the Charlottenschule in the capital. In drawing up the programme the committee have taken into consideration the fact that young girls do not possess the physical strength of young male students; nevertheless the course of instruction will be so arranged as to enable the girl-students to pass the necessary examination for being admitted to a University.

The death is announced of the Rev. Charles Gresford Edmondes, late Principal of St. David's College, Lampeter, which took place at Tenby on Wednesday. Mr. Edmondes (says the *Times*) was a son of the late Vicar of Cowbridge, where his family had lived for generations. He received his early education at the Grammar School there, whence he proceeded to Trinity College, Oxford, of which he became a Scholar. He took a First-class in Classical Moderations in 1858 and a Second in the Final Schools in 1860. He was ordained deacon in 1862, and priest the year following. He remained at Newcastle (Glamorganshire) for three years, and was then appointed Professor of Latin at Lampeter. In 1882 he became Vicar of Warren and St. Twinwell, in Pembrokeshire, and in 1883 he was appointed Archdeacon of St. Davids, with a canonry in the Cathedral. On the nomination of Dr. Jayne to the bishopric of Chester Mr. Edmondes returned to Lampeter in the capacity of Principal, a position which he held for five years. He finally retired last year, and was succeeded by the Very Rev. John Owen, then Dean of St. Asaph.

The Haberdashers' Company are seeking the permission of the Charity Commissioners to remove their boys' school from Hoxton.

The London Society for the Extension of University Teaching has been asked to establish a centre at Hampstead, which stands in the largest metropolitan district unprovided with Extension lecturers.

The report read at the fifth annual meeting of the Guild and School of Handicraft (Mile End) shows that it cannot carry on its work unless the County Council, a City Company, or some other public body comes to its aid. During the past year it supplied sixty centres with instructors, and gave manual training to some nine hundred boys.

The Lancaster Free Grammar School has long been suffering from a want of funds. It has now the chance of acquiring a "modest competence." A Miss Bradshaw, lately deceased, has bequeathed to it the sum of £10,000, with the proviso that the governing body shall be so reconstituted as not to leave it entirely in the hands of the Corporation. The Corporation, however, are showing a good deal of hesitation about accepting the bequest. Meanwhile, the headmaster, the Rev. W. E. Pryke, who is now retiring, strongly urges them to agree to the conditions, pointing out that the school in its present state is (like many another grammar school) practically a "private adventure," depending entirely upon the business success of its headmaster.

Miss Agnes Body, eldest daughter of Canon Body, has been appointed headmistress of the new High School at Lincoln. There were over sixty candidates.

The trustees of the Middlesbrough High School have appointed Miss Gertrude M. Bedford, M.A., headmistress, in room of Miss Mason, who is retiring from the profession. Miss Bedford was educated at Queen's College and University College, London, and took the degree of Bachelor of Arts, with a first class, at the early age of twenty. She subsequently went to Newnham College, Cambridge, and while there passed the London examination for the degree of Master of Arts, in classics, coming out fourth in the list, and also attained the distinction of a second class in the Classical Tripos. Miss Bedford's experience as a teacher has been obtained at Cheltenham and Kensington.

A curious instance of the way in which county J.P.'s regard their

function in administering the law touching compulsory school attendance comes to us in an account of some recent proceedings before the St. Helens bench. The magistrates had before them a batch of prosecutions for irregular attendance of children at school. Superintendent Dutton handed in a number of warrants for the committal of defendants to prison for the non-payment of fines. Mr. Dromgoole said he had heard that in some places the magistrates had definitely refused to sign the warrants, and he was not sure that there was not a great deal of hardship in sending a man to prison. He thought they ought to have some notice. Mr. Dutton: But that is not the law. Mr. Dromgoole: It ought to be. It is a great hardship, and I shall certainly not personally commit any man to prison without hearing what he has to say at one time or another. The Clerk (Mr. Davidson): You are obliged to sign the warrants if the prosecutors ask it, or they will apply to a higher Court to compel you to do so. At this point one of the magistrates was heard to remark, "Get the warrants signed," and that course was adopted, Mr. Dromgoole still dissenting.

The Rev. H. de Vere Welchman, assistant-master of Chigwell School, Essex, has been appointed headmaster of the Exeter Cathedral School.

REVIEWS.

Geology: An Elementary Handbook. By A. J. Jukes Browne. (Whittaker.)

Mr. Jukes Browne is already well-known as the author of two valuable text-books in advanced geology, and one turns therefore to this elementary work with possibly exaggerated expectation. The first feeling, on looking through it, is one of disappointment, not because it fails in its purpose, but because of a persuasion that Mr. Jukes Browne might have done still better had he chosen. No doubt this is a good book, one far above the average of its competitors, and it will certainly play an important part in school teaching in the future, but still it is not hard to find, as one reads it, evidence of lost opportunities and adhesions to obsolescent traditions. Thus the last seven of the twenty-one chapters are occupied by the usual arid review of the stratigraphical systems. We read that in the carboniferous system—

"Of crinoids, the genera *actinocrinus*, *rhodocrinus*, and *platycrinus* are common.

"Of corals, *amplexus*, *lithostrotion*, *Michelina*, and *zaphrentis* are specially characteristic genera.

"Of brachiopods, the most notable is *producta*, but species of *athyris*, *rhynchonella*, *spirifera*, and *trebratula* are common."

And in this manner our author pursues his dusty way. There is no classificatory summary, and whether these dead remains are to be reanimated at all depends entirely upon the zoological knowledge and descriptive power of the teacher in charge of the class. Probably, if the class is in the hands of a teacher sufficiently competent for this, a text-book of this type will not be needed. It is unfortunate that Chapter XVI., covering the lower Palaeozoics, to the Ludlow level, has got itself headed, by some accident, "Archæan Rocks." We are surprised, also, to notice that Mr. Jukes Browne speaks of heteropods and pteropods in the Cambrian, and refers the trilobites to the crustacea. *Bellerophon* has been relegated almost certainly to the euomphaloid gasteropoda, and Pilseneer has adduced considerations which render the pteropod nature of *theca* and *conularia* more than doubtful. Bernard has thrown out a suggestion of the annelid nature of the trilobites, and Lankester and others have shown an inclination to brigade these with the arachnids. If the elementary student is to be afflicted with this palæontology at all, he may just as well be right in his systematic references as wrong. But to us it seems simply the effect of an unhappy tradition that such indigestible and innutritious matter as this still appears in elementary works.

Leaving these last seven chapters, we have little but praise for the rest of the work. It is a clear and progressive account of the origin of rocks and rock structures.

Mr. Jukes Browne is a follower of the Rev. Osmond Fisher, and believes in the twenty-five mile crust and the liquid substratum with its convection currents. He states these views as though they were facts, and gives a diagram of a wedge out of the Earth to drive them into the mind of the pupil. However, it is probably better to stay elementary students with a plausible explanation than to perplex them with conflicting conclusions.

Altogether we recommend this book for school use. Follow it unreservedly, we would say to the teacher, until you reach Chapter XV. Then, to put life into the dismal stratigraphy, read for your lesson notes our author's "Building of the British Isles," and show your pupils his maps, and at the same time

intercalate a few lessons in elementary zoology. With that, and such a collection of rock specimens and fossils as may be purchased for fifty shillings, a thoroughly sound course of geology will be possible with this book. Although we have selected some defects for notice, we would have it clearly understood that this is certainly one of the best introductions to this science with which we are acquainted. Our objections apply entirely to the method of the concluding portion.

Heat. By Mark R. Wright. (Longmans.)

This is a more advanced sequel to the author's elementary "Sound, Light, and Heat," and there can be little doubt that it will take an honourable place among the standard text-books in this subject. It is well arranged, and abundantly and well illustrated. Perhaps on the whole the weakest portion of the work is the chapter dealing with "Applications and Climate." We observe, for instance, that no notice is taken of Professor Hann's recent correlation of cyclones (other than tropical ones) with the general atmospheric circulation. In the latter matter, however, the student is referred to a work on physiography in the same series. The short paragraph concerned with the circulation of the oceanic waters appears to us inadequate, and unworthy of the rest of the work. The book has been in all other respects brought well up to date, and contains questions from examination papers up to May, 1893. It is confessedly prepared especially for the Science and Art Department examinations, and its fuller and more thorough treatment witnesses eloquently to the wisdom of the comparatively recent change by which the old advanced examination in sound, light and heat has been split up into an alternative test in any one of its three original constituents. There are numerous exercises, to which, when numerical, answers are given. Many of the illustrations are new to us. The book will certainly serve its declared purpose admirably well.

Object Lessons from Nature. Parts I. and II. Third Edition. By Professor L. C. Miall, F.R.S. (Cassell.)

We are not surprised to receive these third issues of Professor Miall's model work already. It would be hard to praise these lessons beyond their merits; they are all that object lessons should be. Everyone who is brought much into contact with children should see these and have them for reference. These two books are not simply books of lesson notes for elementary teachers. They are full of matter that will be fresh and valuable to many who have never entered an elementary school. We would particularly recommend them to assistant masters and mistresses in middle-class schools, upon whom the duty occasionally devolves of accompanying boys and girls in their walks. Too often these excursions are, to the teacher at least, not only unprofitable but extremely tedious, mainly for want of sufficient points of contact with his or her charges. Our own unaided conversational attempts are, for the want of variety in our suggestions and knowledge, only too apt to degenerate into disquisitions after the precedent of Master Harry Sandford's Mr. Barlow. Here one will find how to make a wayside flower, a butterfly chrysalis, a hairy stem, or the frog-spawn in a ditch, matter for really interesting conversation. Then there is the wet half-holiday, with its demands for occupation, which the simple experiments upon surface tension, or upon combustion, might convert into a memorable festival. And, beyond any thought of such applications to professional uses, we must confess that we have found the book itself extremely readable and interesting. Professor Miall has evidently a pen to catch your common man. If he choose to desert his science, he may yet follow Mr. Grant Allen and Professor Lloyd Morgan down the primrose way of popular appreciation. We must admit one regret. Following the accepted tradition of reviewing, we have sought carefully for a mistake or so—entirely, of course, for Professor Miall's future benefit: the nearest approach we can discover to one is the use of "head" for a crustacean cephalo-thorax, and by popular usage that is no mistake at all.

Logic, Inductive and Deductive. By William Minto, M.A.
The Physiology of the Senses. By John Gray M'Kendrick, M.D., and William Snodgrass, M.A., M.B. (John Murray.)

The series of "University Extension Manuals," to which these works belong, is designed, firstly, to reach those who are unable to attend the lectures of the University Extension movement. They supply the reader with the same kind of teaching as is

given in the lectures, and will meet the general wants of students. In his *Logic*, Professor Minto had two aims in view: the first was to put the study of logical formulæ on a historical basis; the second was to increase the power of logic as a practical discipline. It was not a hopeless task to carry out this practical aim along with the historical one, for throughout its long history logic has always been a practical science; nor was it surprising that Professor Minto, with his wide and varied learning, should succeed in his task. His recent death has deprived Scotland of one of its typical philosophical representatives; but his *Logic* will tend to keep his memory alive. In the *Physiology of the Senses* is given a succinct account of the functions of the organs of sense, as these are found in man and the higher animals. The subject is a difficult and tedious one, and the volume before us is but a preparation for entering upon the recondite questions that underlie physiological psychology.

SHORT NOTICES.

CLASSICS.

Latin Verse Composition. By the Rev. F. D. Morice. (Rivington.)

The book owes its existence, says Mr. Morice, to the fact that many years' teaching has brought him "a quantity of material which, if placed at the disposal of other teachers, may spare them some of that labour in selection and adaptation which he had himself to go through." The selection is a fairly good one, and the hints and notes are helpful, though Mr. Morice's remarks may occasionally tend to make the pupil think that verse-making is a "dull mechanic exercise," and that, as long as the words can be juggled into scanning order, nothing else matters very much. "In Vergil's storms two or more different winds sometimes blow together," but that is no justification for their appearance in Rugby's verses. The book is not meant for beginners or scholars: it will be useful in the middle and upper forms. A companion volume of versions (*vulgo* "crib") is promised.

Ediscenda. By Joseph Wood, D.D. (Rivington.)

A charming little school anthology, containing passages for repetition from Latin and Greek poetry and prose. The compiler, who is the headmaster of Tonbridge, "ventures to think" (and we to agree with him) that "a boy who, during the happy years of school, stores in his memory these fragments of ancient song, and of old politics and philosophy, which, though old, are ever new and ever true, will make the better man." He will also (to descend to a lower but perhaps more immediately practical matter) write the better prose and verse.

SCIENCES.

Worked Examples in Coordinate Geometry. (Clive.)

This is a companion to Messrs. Briggs and Bryan's excellent introduction to the "Coordinate Geometry of the Right Line and Circle." No student who has worked through this collection, and can answer the questions given in the eighteen test papers, should find any difficulty with an examination on the subject. The solutions are in most cases very neat, and are likely to inculcate the habit of avoiding clumsy and cumbrous methods.

Euclid, Books V. and VI. By H. M. Taylor, M.A. (Cambridge Press.)

This contains such parts of Book V. as are required for Book VI., which is given with the usual omission of 27-29, and a substitute for 32. Mr. Taylor adds a number of well-selected propositions introductory to the study of harmonic ranges and pencils, inversion, coaxial circles, &c., and furnishes plenty of exercises.

Preliminary Algebra. By R. Wyke Bayliss, B.A. (Blackie.)

Lessons in elementary algebra "up to and including" simple equations, fractions, and square and cubic roots. Examples are plentiful, but explanation and discussion meagre. It is adapted to the requirements of the Army Preliminary Examination; we do not see that it has any superiority over the many Algebras now in use for that purpose.

Royal English Arithmetics. (Nelson & Sons.)

These are four very cheap booklets of arithmetical examples, carefully graded to meet the requirements of the current Code (Scheme B). They deserve to be widely popular among elementary teachers.

Acoustics. By William Lees, M.A. (Collins' Advanced Series.)

A new and enlarged edition, adapted to the new syllabus of the Science and Art Department. The author states that the inclusion of a selection from the more difficult questions proposed at the May Examinations and at the training colleges is "a special feature of the book."

ENGLISH.

Macaulay: Lord Clive. Edited by K. Deighton. (Macmillan.)

The editor thinks it necessary to expound the meaning of "minute ever to tediousness," "tact," "gaping clowns," "mere pedlars," and

similar recondite and abstruse expressions. Nevertheless, the book is not nearly so badly overlaid with annotation as many of the series, and a large proportion of the notes are really useful, for Mr. Deighton is always accurate, scholarly, and conscientious. By way of introduction, he gives us excellent essays on the history of the Maratha powers and the earlier doings of the European powers in India.

Stories and Biographies, 1066-1485. (Longmans.)

Book IV. of the "Ship Historical Readers." It gives the narrative of English history in a simple, straightforward form, with abundance of anecdote, plenty of pictures, and careful explanations of difficulties of language. It is an interesting and instructive reading-book, well adapted for the double end its compiler has in view.

The Tudor Period. By S. R. Gardiner. (Longmans.)

This is Book V. in the same series, and the same remarks apply to it. The name of the eminent scholar on its title-page is, of course, a guarantee of the soundness and accuracy of its contents.

Milton's Comus. Edited by O. Elton, B.A. (Clarendon Press.)

The editor occupies about two-and-a-half times as much room as the poet, sometimes calling attention to the obvious and explaining the evident, commenting unnecessarily on his predecessors' unnecessary comments, quoting unilluminative "parallel" passages, and garnishing with painful æsthetic criticism. But this is the way in which the English classics are prepared for the use of the young, and Mr. Elton is certainly no more to be blamed than most of his fellows. The introduction is carefully written. The book will undoubtedly prove very useful for examination purposes.

A Spelling Book. By an Inspector of Schools. (Collins.)

This contains carefully selected and systematically arranged lists, concise spelling rules, notes on words of like pronunciation, on "word-building," and kindred subjects. The whole is divided into brief lessons. The little book is well adapted for use in elementary schools (Standards IV.-VII.), and might be employed with advantage in those of a higher class. But an Inspector of Schools ought to know better than to talk of *ago*, *cappio*, *venio*, &c., as "important roots."

The English Language. By W. H. Low, M.A. (Clive.)
A second edition.

Composition for the Kindergarten. By a Kindergarten Teacher.
(Blackie.)

A little book of very simple stories to be read to very little children; some hints are given as to the best method of using such a collection.

MODERN LANGUAGES.

Historiettes. Edited by P. Drieu, B.-ès-L. (Rivington.)

Stories "adapted from the English." The diction is very simple, as befits a book included in the "Beginners' Series." In the first few pieces the words are divided into syllables; a good vocabulary is arranged in the order of the text, thus insuring the minimum of trouble and the maximum of attention in the case of the virtuous learner, while it punishes automatically the idle one, who has to hunt in the index and then hark back to the vocabulary for a word he has not taken the pains to learn.

Huit Contes. Edited by W. S. Lyon, M.A. (Rivington.)

In the same series as the "Historiettes." The tales are those of Mdle. Minssen.

Robert Blake; Cromwell. Edited by C. W. S. Corser, M.A. (Rivington.)

The subject-matter is taken from Pauli's "Aufsätze zur Englischer Geschichte," and will prove attractive to older boys with a turn for history. It is an "Advanced Text," and consequently vocabulary-less. The notes are mainly historical—such as are not of much account, e.g., *Fortgang* (p. 116), *Ohnmacht* (p. 142). Mr. Corser misuses the word "literally" when he says, "*geltend machte*: lit. 'made good.'"

Rapid Exercises on French Grammar. By Victor Spiers, M.A.
(Percival.)

These exercises are intended for pupils who have to master French grammar in a limited space of time. The exercises form a collection of grammatical points which the pupil is instructed to answer by a letter or a word. They are business-like and practical, and may be done by whole classes in large quantities, and in a short time.

MISCELLANEOUS.

Plain Advice about Life Insurance. By A. J. Wilson. (Longmans.)

A very useful shilling manual written by an independent expert. We can recommend it heartily to all seeking information on the important subject it deals with.

The Atlantic Ferry. By Arthur J. Maginnis. (Whittaker.)

A "popular edition" of this interesting and very readable account of the ships, men, and working of the great Atlantic lines.

Swimming. By Archibald Sinclair and William Henry. (Longmans.)

One of the best of the volumes that have appeared in the excellent "Badminton Library." The authors discuss every branch of swimming and allied accomplishments in a very thorough, competent, and practical fashion, and they deal with the history of the subject in an interesting manner. The illustrations are good, and the book is altogether fit to occupy a place in any school library.

Studies by a Recluse. By Augustus Jessop. (Fisher Unwin.)

A second and cheaper edition of this pleasant book. Our readers may like to be reminded that it contains an essay concerning the dissemination of sound historical knowledge, entitled "A Suggestion for my Betters." Among its other contents are "St. Albans and her Historian," "The Land and its Owners in Past Times," and "L'Ancienne Noblesse." The first-mentioned of these gives rise to an interesting correction. "When at page 63, I rashly asked, 'Who ever heard of a candidate for honours taking Polybius into the Schools?' I did not know that there were at least two living scholars who actually did take this author, and that Mr. Gladstone is one of these two." The italics are Dr. Jessop's, who asks if there is "no limit to the range over which the reading of this wonderful Englishman has travelled."

The London Matriculation Directory. (Clive.)

The papers set at the June examination, together with "model solutions" by various hands, notes on text-books, and other matter tending to exhilarate the candidate for Matriculation.

London Matriculation Guide. By John Gibson, M.A., and G. Loly, B.A.
(Cornish.)

Papers and solutions. The latter are more like the actual answers which a well-prepared candidate might give than those in Clive's "Directory," where the solutions aim at higher level of scholarship. Asked to "state what you know of" *folcland*, Messrs. Gibson, Loly, and Ranking, placing themselves in the position of the schoolboy, have only to observe that "under the Anglo-Saxons," it "was public or inalienable land." On the other hand, Mr. Fearenside gives, briefly yet with some little detail, the two theories on the subject, and directs the student's attention to authorities. The same kind of difference is well illustrated by the treatment of the second part of Question 4 in the arithmetic paper.

CORRESPONDENCE.

To the Editor of the Educational Times.

THE PUZZLE OF ALTERNATIVE SUBJECTS.

SIR,—Possibly some fellow inquirer in matters educational may feel interested in a little difficulty I have encountered in the theory of examinations. Complaint, it would seem, is not altogether silenced in the matter of the Woolwich and Sandhurst competitions. The trouble arises from the existence of alternative subjects and the inevitable difficulty of equalizing the standard between these. Practically, the competitors race over different courses, and the failures always have the consolation open to them of thinking that they might have succeeded had they chosen a different route. On a recent occasion, for instance, there was a bitter outcry at the severity of the geological examination, and the relative amenity of the examiners in history. This last time the geological standard has evidently been greatly lowered, and the student of history complains.

The affair raises the question of the advisability of limiting candidates in a competition to a specified number of subjects, of which some are alternative. It may be objected that any other course opens the gate to the smatterer, but this is very largely avoided by counting no marks below a sufficiently high minimum. As it is, those who prepare for these tests are tempted to speculate overmuch upon the condition of a particular examiner's conscience. Does he suffer under a vision of ruined careers, or is it rather of the unworthy flourishing? Will his subject be a region of low or high pressure at the next inquisition? In the case of the particular examinations under consideration there can be no doubt that a number of special teachers are profoundly interested in these barometric fluctuations, and that considerations are introduced into their preparation opposed to the spirit of pure competition. But it is far easier to state the difficulty than to propound a satisfactory solution. At the first glance the remedy seems to be to allow a candidate to profess a knowledge of as many subjects as he likes—up to omniscience; but a moment's consideration will show that this would be no check but an encouragement to the practice of "spotting" "paying" subjects. An inelastic ex-

amination on the model of the old London matriculation would, on the other hand, be open to all the objections that finally led to the substantial alteration of that test.

Probably, after all, the present arrangement, though it may at times be very unjust, carries with it the minimum of injustice, and the problem of preserving the level of the standards may have to be left to the conscience of the examiners concerned. Unfortunately, pedagogics is still far from the condition of an exact science, and we have no qualitative analysis of subjects. I must confess I do not envy the man who, being, we will assume, a geologist of the utmost eminence, and rusty to the extreme degree in his history, has, let us say, to discover the exact geological equivalent of a demand for the provisions of the Regency Bill of 1789—nor the historian brought face to face with the problem of the historical parallel to the Megatherium. Possibly some of your readers may know a solution to this difficulty, and with that hope chiefly I have ventured to call their attention to the matter. Only one way has been suggested to me that seems at all practical, and it is to me rather too novel a one to accept unreservedly. It has been pointed out that, however much the standard may vary, the average candidate for the same examination varies year by year little if at all. Very well, suppose your papers in the two subjects marked, and let the average marks obtained in subject A be 42, and in subject B 31 per cent. It would seem reasonable to suppose that the relative difficulty of the papers is inversely as these averages, and that for a really fair competition as between A students and B, candidates taking B should have their marks scaled up to the A level by multiplying them by $\frac{42}{31}$. I fail, myself, to see any great objection to this proposal, but I shall be glad of your courtesy to display it in your columns for any incidental critic to find a fallacy I may have missed.—I am, Sir, &c., L.C.P.

THE GREEK PLAY AT QUEEN'S COLLEGE FOR LADIES.

AMONG the many festivities which celebrate the close of the academic year, the entertainment given to their friends by the women-students of Harley Street claims the special attention which is due to a unique and difficult enterprise, as well as the general interest which is always felt in an admirably conducted artistic performance. We are indebted for the following account of the proceedings to the kindness of Dr. C. Merk, one of the Professors at the College.

It is a far cry from the theatre at Athens, open to the sky, the clouds, and the sun, with the blue outlines of Mount Hymettus and the "violet sea" forming the background, from the humming multitude of peoples, from actors raised on *colthurnes* and declaiming with the aid of sounding-boards—to a modern ladies' college, within earshot of Oxford Street, to a performance given inside a closed hall, with the accessories of Venetian blinds, gaslights turned off and on, and of an audience which appears in the gloom as an array of bonnets, bald heads, and silk-lined frock coats. The surroundings amidst which a Euripidean play is resuscitated are as different from those amongst which it was originally composed, in regard to form and character, as the fifth century B.C. is different from the nineteenth A.D. But these are, after all, merely accessories, and accessories must be kept in their place; they must not be allowed to absorb all our thoughts and our attention. We are not so sure whether the difference between an Attic drama as originally performed and as now reproduced is much greater than, say, *Hamlet* or *Macbeth* as acted at the old Globe theatre—with boys taking the parts of women, with boards inscribed "forest" or "cave" doing duty for scenery, and with some of the audience seated on the forepart of the scene and limiting the space for the actors by extending comfortably their nether limbs—and the same plays as now put on the stage at the Lyceum or Haymarket. It is, after all, the living representation of things human, of failings and faults and guilts, and the fate that *θεῶν ἐν γούνασι κεῖται*, which appeals, in whatever environment the rendering may take place, irresistibly to the human heart. The only condition necessary to make the appeal go home is that the actors should know and feel what they are about, should be able "to weep for Hecuba." The players in the recent representation of the "Andromache" showed certainly that they were filled with a true sense and appreciation of the classic work of art which they were setting on modern boards. No sooner had the lights been turned low over a small but well-chosen assembly, waiting in the gloom and in breathless silence, when there appeared on the scene before them, the *façade* of the Shrine of Thetis, with its row of doric pillars, hard, white, and unadorned—in their midst the ancient statue of the goddess, a somewhat grim-looking idol. Andromache (Miss Frances Whittow, a former pupil of Queen's College), in the opening scene, which serves as a prologue and explains the state of events, fully sustained the part of the noble widow of Hector, the bondmaid of Neoptolemus. The description of the destruction of her home in Troy,

of the slavery in her enemy's house, the fears of the intrigues of her rival, Hermione, which had driven her to seek refuge in the sanctuary—addressed to the companion of her bondage (*σύνδουλος*), were spoken with the exquisite grace of gentleness and long-enduring patience, and struck the keynote of Euripides' play, which moves, if not "fear and pity" (as according to Aristotelean definition it should), to an almost painful degree the gentler feeling of sympathy. The noble form, draped in purple, bending low before the image of the goddess, embracing its feet with suppliant arms, and "melting to tears as doth a spring that gushes from the rock," *ὡς περὶ νῆα πίδακόςσα λιβάς*, seemed the very symbol of mortal grief. The ode of the chorus, intoned to mournful music, was in perfect harmony with the sombre picture. The chorus was divided into two bodies, which stepped—as they should—from two entrances, to the right and to the left, upon the stage. The slow processions, the flowing robes, the slight rhythmic movement of bare arms, the swaying of bodies, were all in unison.

A fine set-off to this scene was the entrance of the fortunate rival, Hermione (Miss Gwen Langridge, a former pupil), "with a crown of golden workmanship upon her head, and about her body the embroidered robe," a gift of her father, Menelaus. The difference intended by Euripides between the widow of noble Hector and the daughter of the rich house of Laconia, was well brought out; it was a fine touch of acting on the part of Hermione to adorn her wrists with armlets, and to adjust her headgear before a metal mirror, during the passionate and sorrowful appeal addressed to her. The latter part of the dialogue, with its pointed epigrams, charged in the true Euripidean manner with sorrow, anger, jealousy, cruelty, was given with considerable spirit. The part of Menelaus is not easy to carry through. In composing it, the Athenian poet has given the rein to his hatred of Sparta and things Spartan. In this play, Helen's husband cuts a figure which is certainly sorry and contemptible in the extreme, and stands at a greater distance than any other character from its original place amongst the heroes of the siege of Troy. But the *rôle* was well taken by Miss Eleanor Davies-Collier. Menelaus has secured Andromache's child, Molossus, and induces her to leave her refuge by promising to spare the child. No sooner has she stepped from the shadow of the shrine than she is seized by the soldiers of the Spartan king, and when she pleads with him for the life of "her chick snatched from beneath her wing," she receives the mocking reply, *θυγατρί δ', ἤν θέλῃ, δάσω κτανεῖν*. This scene, together with the following, where Peleus, the grandfather of Neoptolemus, appears suddenly, form the climax of the play; the players all did justice to their task. The struggle in the mother's breast, decided at last by infinite tenderness for her babe, her noble self-surrender, the cold, cunning cruelty of Menelaus, the pitiful song of the chorus, the solemn warning of the mother when she sees herself cheated: "Thinkest thou God's hand is shortened, and that thou wilt not be punished?" and the torrent of invective into which she breaks forth, not, in the first instance, against her deceivers, but against all Sparta—all this was rendered with real force. A good many of the hearers realized, for the first time, in the fine roll of the verses—

ὦ πᾶσιν ἀνθρώποισιν ἐχθιστοὶ βροτῶν
Σπάρτης ἔνοικοι, δόλια βουλευτήρια
ψευδῶν ἀνακτες, μηχανορροφοὶ κακῶν,
ἐλικτὰ κούδεν ὑγιές, ἀλλὰ πᾶν πέριξ
φρονούτες, ἀδίκως εὐτυχεῖτ' ἂν Ἑλλάδα—

what a vigour can be imparted, in the Greek language, to denunciations, and how this curse of "false lying Spartans, devisers of evil plots," must have electrified the vast Athenian audience during the time which preceded the Peloponnesian war. The last and gentlest touch to the scene is given by the helpless pleading of "the babe, the darling," for its mother's life, to which Menelaus answers, like an oracle of fate:—"Away to the world below! from hostile towers ye came, the pair of you. . . . Ye shall reap the fruit thereof, and into Hades' halls descend." The solemn notes of music lent additional emphasis to this sentence.

The arrival of Peleus (Miss Augusta Klein) forms the turning point of the play. The aged prince of Phthia orders Andromache and her child to be released. In the following altercation between Peleus and Menelaus, Euripides pours forth for the last time the vials of his anger over the Spartan king. Although considerable portions of the original were omitted, this scene is one of some length—a duet of abuse at a high pitch of passion; but the players acquitted themselves well; there was no falling-off noticeable in the energy of expression. The final scenes, containing the despair of Hermione, when she finds her designs frustrated and dreads her husband's revenge; the consolations of the nurse (Miss Edith Moore), the appearance of Orestes (Miss Edith Langridge), then on his Delphian journey, the abduction of Hermione, the news of Neoptolemus' death, and, finally, the stage effect (which Euripides so dearly loved and so frequently practised) of the appearance of Thetis (Miss Beatrice Vyvyan) the *dea ex machina*, who, with immortal power, sets the tangled skein of mortal men aright, were all very effective. There was a weird and strange tone in the accents of Peleus, as though his marriage with the goddess of the sea had imparted something supernatural to his being. The nurse, with all her homeliness of attic and language, was not without a touch of the pathetic. The guards of Menelaus looked fine and stately, and would have realized the idea one has of hoplites, had it not been for a certain slowness of figure and bloom of complexion, which, however, appeared anything but unattractive under a high metal helmet.

The performance of the "Andromache" at Queen's College has been most instructive; it brought out, in clear relief, some of the characteristics of the Euripidean drama, its passion, its invective, abuse, sarcasm, wit, its masterly individual character-drawing, its curious contrast of the noblest and lowest of feminine nature, its display of stage effects. Those amongst the audience who, a year ago, saw the performance of "Antigone," have been able to realize, with life-like freshness, the great difference between two stages of the Attic drama. Professor Wilson has certainly succeeded in impressing upon his pupils the character of each play. The music, composed by Professor Gadsby, to the "Andromache," simply serious, melodious—with now and then a refrain or an echo of Gluck—beautifully followed and illustrated the development of the drama.

C. M.

UNIVERSITIES.

LONDON.

THE reports on the earlier summer examinations have recently been published.

At the M.B. Examination of May (a Pass Examination only), 31 candidates, out of 51, passed.

At the M.A. Branch I. (Classics) eleven candidates passed. The large gold medal is awarded to Miss Bertha M. Heath, a private student. This is the second time that the medal has been won by a lady, the previous instance having been that of Miss Mary L. Worley, in 1888. Two other ladies stand respectively seventh and tenth in the list. In Branch II. (Mathematics) the only successful candidate is a lady, Miss Florence K. Lee, of University College. In Branch III. (Mental Science, &c.) eight candidates passed: the first again is a lady, Miss Mary A. Robertson, of University College; but the medal is not awarded either in this branch or in Branch II. In Branch IV. (Modern and other languages) there were twenty candidates, but only six passed. The first in order of merit is Mr. W. A. Brockington, of Mason College, who obtained the exhibition in English at the Intermediate Examination of 1889, and the prize at the B.A. of 1890. In the second place stands Miss Ellen Boutwood, a private student, who has already taken the M.A. in Classics, and may therefore be supposed to be aiming at the doctorship in Literature. With her is bracketed Mr. W. D. L. Evans, of University College, Aberystwith, the first candidate who has taken up the Celtic languages. No medal is attached to this branch.

A colonial supplementary list for Branch I. has also been posted. One candidate has passed, viz., Mr. J. L. Ramson, of University College, Jamaica, and is placed equal to the seventh in the original list.

There is said to have been a goodly list of candidates (fourteen) for the doctorship in Science. Of these, seven have been successful, viz., two

Chemistry, one in Zoology, one in Physiology, and three in Geology; the report in Physics is outstanding. Under the regulations promulgated in 1891, six of these candidates, having obtained first-class honours at the B.Sc. Examination, were entitled to exemption from a general examination in their several subjects; and of one of the five, Mr. J. W. Gregory, a private student, the thesis was found to be of such great excellence that, under the new regulations of last year, the examiners excused him from any further examination, even upon the thesis itself. Mr. Gregory's subject was Geology; and a lady, Miss Maria M. Ogilvie, has passed in the same subject, being the third of her sex to obtain the degree. The other two lady Doctors of Science are Mrs. Sophia Bryant (Mental Science, &c.), and Miss Charlotte A. Scott (Pure Mathematics).

The June Matriculation Examination seems to have been a huge affair. The total number of candidates actually present is said to have been 1,923, against 1,788 last year, which number, in its turn, was larger than that at any previous examination. The passes number 1,088 (56.6 per cent.), against 840 (43.2 per cent.) last year. The number in Honours is 40, in the first division 825, in the second 223. The number of women was 444, against 404 last year, of whom 275 (62 per cent. nearly) have passed, against 210 (52 per cent.) last year. In Honours there are 13, in the first division 213, in the second 49. The first exhibition goes to Mr. A. W. Foster, of the Central Board School, Sheffield, who stands first; the second exhibition goes to the second candidate, Mr. A. H. Bartlett, of Bancroft's School, Woodford; and the third to the third candidate, Miss Edith Willis, of the North London Collegiate School; the fourth candidate, a private student, is too old to take the first prize, which passes to the next candidate, Mr. J. A. Nairn, of Trinity, Cambridge; the second prize goes to the sixth candidate, Mr. Charles Pigott, also of Bancroft's School, Woodford; then follow four candidates, private students, two being ladies, who are all too old to take a prize; the third prize therefore goes to the eleventh candidate, Miss Winifred M. Slater, of the South Hampstead High School. Altogether there are in the Honours division five candidates from Bancroft's School and four from the North London Collegiate School for Girls.

The daily papers towards the end of June made it widely known that Lord Herschell, the Lord High Chancellor of England, has been approved by the Queen as Chancellor of the University. Hitherto the Chancellor has been selected from the older nobility. Lord Herschell is a *novus homo*, and is none the worse for that. He is a London Graduate

(B.A. 1857) and Hon. D.C.L. of Oxford. He examined for five years (1872-6 inclusive) in Common Law, and has now for ten years been a member of the Senate, in whose proceedings he takes great interest.

OXFORD.

A Conference on Secondary Education will be held on October 10th and 11th, 1893, in the Examination Schools. The following programme has been prepared:—October 10th, at 2.15 p.m.: The need of various types of Secondary Education in England, with special reference to (1) the curricula and gradation of First Grade Schools (Classical and Modern) Second Grade Schools, and "Higher Grade" Board Schools, respectively; (2) the provision of Preparatory Schools for the upper grades of Secondary Schools; and (3) the relation between Secondary Schools and the Universities. Short papers will be read, as a basis for discussion, on (1) The proper place in a complete system of Secondary Education, (a) First Grade Schools (Classical and Modern), (b) Second Grade Schools, (c) Schools for Girls (Higher and Second Grade), (d) Higher Grade Board Schools, (e) Preparatory Schools for the Upper Grades of Secondary Schools; (2) The relations between Secondary Schools and the Universities. October 11th, at 10 a.m.: The means of supplying the needs for Secondary Education in England, with special reference to (1) the central authority; (2) provincial and district authorities; (3) the registration of teachers and schools. As a basis for discussion, short papers will be read on the services which could be rendered to Secondary Education in England by (1) Local authorities: (a) County Councils, (b) School Boards, (c) Special District Boards; (2) Teachers in public and private schools; (3) The Government; (4) The Universities.

The representatives attending the Conference will be entertained by members of the University. The members of the Conference are invited to a *Conversazione* in the Examination Schools, High Street, on Tuesday, October 10th, from 8.30 to 10.30 p.m. Each session of the Conference is expected to last about 2½ hours.

CAMBRIDGE.

The event of the long vacation is the Extension Meeting, which this year is on a much larger scale than usual. Beginning on the 29th of July it lasts till August the 26th, and is bringing up some five or six hundred visitors. The subjects on which instruction is offered include history, literature, economics, and natural science. An attempt is made to provide political education by arranging that nearly all the historical and literary lectures shall bear on the recent history and intellectual movements of our own country. This is of special interest in connexion with the "Duties of the Citizen" included in the new Evening Continuation School Code. Among the lectures are courses on Growth of our Colonial and Indian Empires, the Industrial Revolution, Parliamentary Reform, Constitutional History, and on many of the chief poets and prose writers of the century. The lecturers are nearly all closely connected with Cambridge, and among them are such men as Professor Jebb, M.P., Professor Maitland, Professor Sidgwick, the Master of Trinity, Mr. Gosse, besides several of the best known of the University Extension lecturers. On the scientific sides several courses of laboratory work are provided, and in addition there is to be a set of lectures illustrating from the history of several sciences the progress and methods of natural science. The services of Sir Robert Ball, Sir Henry Roscoe, and a number of other well-known scientific lecturers have been secured. Among the miscellaneous lectures are a series on great Cambridge men to be given in their own college halls.

ROYAL UNIVERSITY OF IRELAND.

The new Calendar notifies that the Senate are now in a position to establish Fellowships. In October, 1894, there will be awarded three Junior Fellowships, by competition among graduates of at least two years' standing. They will be of the annual value of £200 each, and will be tenable for four years. Further particulars regarding the examination are not yet forthcoming, but the secretaries will be in a position to afford this information after the 15th August next. Arguing from analogy, it will probably be safe to infer that these Fellowships will be open to women, and that they will be conferred for proficiency in individual branches of the faculty of Arts, as classics, mathematics, or mental science. The only duty to which the new Fellows will be liable is to take part, if called upon, in the conduct of examinations.

ROYAL HOLLOWAY COLLEGE.—The following Entrance Scholarships have recently been awarded:—(1) £75 a year for three years to E. J. Sloane (University College, Bangor), E. McDougall (Manchester High School); (2) £60 a year for three years to A. R. Doyle (Edinburgh), E. Hall (Macclesfield High School), F. L. Usherwood (Tottenham High School), J. M. C. Baumann (Streatham Hill High School), M. M. Gostling (Bedford College); (3) £50 a year for three years to M. H. Ross (Liverpool High School), A. E. Billing (N. London Collegiate School), M. J. Hogarth, B. M. Burney (Blackheath High School), L. Mitchell (University College, Bangor). Miss Eleanor Field, Assistant Demonstrator in Chemistry, and Bathurst Student, Newnham College, Cambridge, First Class in the Natural Sciences Tripos, was appointed as Resident Lecturer in Chemistry; and Miss Margaret Benson, B.Sc. London, with Honours in Botany (1st in First Class), and Marian Kennedy Research Student, Newnham, in 1892, was appointed Resident Lecturer in Botany.

MATHEMATICS.

11979. (H. J. WOODALL, A.R.C.S.)—Show how to inscribe a square in a given quadrilateral.

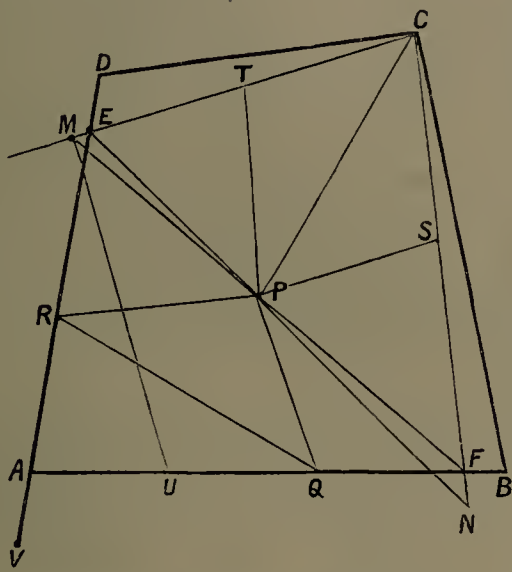
Solution by R. F. DAVIS, M.A.

Let ABCD be the given quadrilateral. Through C draw CE perpendicular to CB, meeting AD in E; and CF perpendicular to CD, meeting AB in F. Take a point U on AB such that, if MU be perpendicular to CE, MU = MC (i.e., by making the angle UCE = 45°).

Similarly, take a point V on AD such that, if NV be perpendicular to CF, NV = NC.

Then the point P of intersection of EN, FM determines the solution.

[The rest in Volume.]



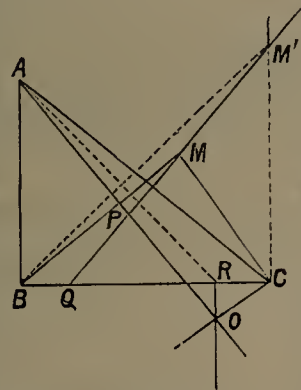
11969. (Professor MANNHEIM.)—On donne un triangle ABC rectangle en B. On joint les points B et C à un point M du plan du triangle. De A on abaisse la perpendiculaire AP sur BM; en C on élève la perpendiculaire CO à CM. Ces droites se coupent en O et l'on projette ce point orthogonalement en R sur BC. La perpendiculaire MQ sur AC coupe BC au point isotomique de R.

Solution by Professor DROZ FARNY.

Supposons la droite MQ fixe et le point M mobile sur cette droite. Les droites BM et CM décrivent deux faisceaux perspectifs, et par conséquent les droites AP et CO qui leur sont respectivement perpendiculaires deux faisceaux projectifs. Lorsque M est à l'infini sur QM les rayons AP et CO coïncident avec AC; lorsque M coïncide avec Q les deux rayons AP et CO sont perpendiculaires sur BC; le lieu de O est donc une ligne droite perpendiculaire sur BC. Son point d'intersection R avec BC sera obtenu lorsque M se trouve en M' intersection de QM avec CM' perpendiculaire à BC.

On a alors triangles M'CQ, M'BC semblables à CAB, ABR; donc M'C/CQ = CB/AB, M'C/BR = CB/AB.

Il résulte de ces deux proportions CQ = BR, ce qui démontre le théorème de M. MANNHEIM.



11946. (W. J. DOBBS, B.A.)—Two conics, I. and II., are drawn, each passing through four points, A, B, C, D. P and Q are any two points on I., and PA, PB, QA, QB meet II. in the points p_1, p_2, q_1, q_2 , respectively. Prove that PQ, q_2p_1, p_2q_1, CD are concurrent; also that p_1p_2, CD , and the tangent at P are concurrent; also that q_1q_2, CD , and the tangent at Q are concurrent.

Solution by H. W. CURJEL, B.A.; Professor DROZ FARNY; and others.

Project CD into the circles, then the conics become circles, and CD the line at infinity.

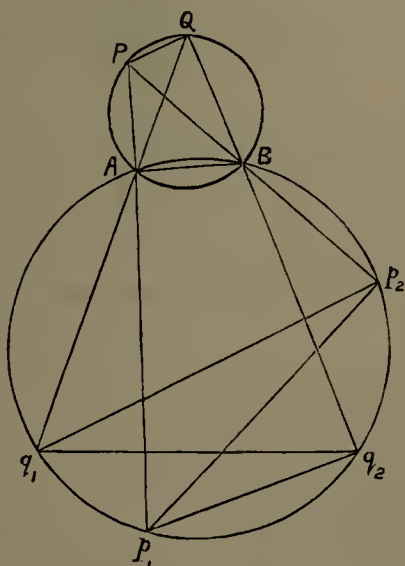
In the projected figure

$$\angle q_2p_1A = \angle ABQ$$

= the supplement of $\angle p_1PQ$;

$\therefore p_1q_2$ is parallel to PQ; similarly, q_1p_2 is parallel to PQ; therefore p_1q_2, PQ, q_1p_2 are parallel; i.e., p_1q_2, PQ, q_1p_2, CD are concurrent.

If Q moves up to P, PQ becomes the tangent at P and p_1q_2 coincides with p_1p_2 ; $\therefore p_1p_2, CD$ and the tangent at P are concurrent; similarly, q_1q_2, CD , and the tangent at Q are concurrent.



11930. (Professor B. O. PEIRCE.)—Each of a number of equal heavy particles, which make up a system S, is constrained to remain on one of a set (P) of parallel straight lines in a plane, equally spaced at a distance a apart. Between the members of each pair of adjacent particles there acts

an attractive force proportional to the distance, and of absolute value μ . There are $n+2$ consecutive particles in the system, and the extreme particles are fixed at two points A and B in a line which cuts P at right angles. The system S' is in all respects similar to S. except that it consists of $n+1$ particles and the extreme particles are free to move on their lines. However the particles in S and S' may be moving under the action of the internal forces, it is evident that the configuration of each of the systems (provided the centre of gravity of S' is at rest) may be completely stated by a combination of n simple harmonic terms of definite periods. Show that $\delta_{n+1} \div \Delta_n = D^2$, where D represents differentiation with respect to the time, Δ_n represents the determinant of n rows and n columns:—

$$\begin{vmatrix} D^2+2k & -k & 0 & 0 \\ -k & D^2+2k & -k & 0 \\ 0 & -k & D^2+2k & -k \\ 0 & 0 & -k & D^2+2k \end{vmatrix}$$

and δ_n represents a determinant with all its elements identical with those of Δ_n except the first and last elements of the principal diagonal, which are D^2+k instead of D^2+2k . Hence, prove that the periods of the harmonic terms which are involved in the motion of S' are the same as those of the terms which are involved in the motion of S.

Solution by the PROPOSER.

Let y_p be the distance of the p th particle of mass m from the line AB in the system S, and from a fixed line perpendicular to the paths in S'. Let $\mu = km$. The equations of motion of the first and last particle in S' are $\ddot{y}_1 = k(y_2 - y_1)$ and $\ddot{y}_{n+1} = k(y_n - y_{n+1})$. The equation of motion of any other particle of either system is $\ddot{y}_p = k(y_{p+1} + y_{p-1} - 2y_p)$. Hence, in system S, $\Delta_n(y_p) = 0$; and in system S', $\delta_{n+1}(y_p) = 0$.

[The rest in Volume.]

11966. (Professor MACFARLANE.)—Prove that

$$\frac{\pi^2}{8} \left\{ 1 - 2y \frac{e^{1/y} - 1}{e^{1/y} + 1} \right\} = \frac{1}{1^2} \frac{1}{1 + (\pi y)^2} + \frac{1}{3^2} \frac{1}{1 + (\pi y)^2} + \frac{1}{5^2} \frac{1}{1 + (\pi y)^2} + \dots$$

Solution by the PROPOSER.

Let $1/y = x$; then we have

$$\frac{\pi^2}{8} \left\{ 1 - \frac{2}{x} \frac{e^x - 1}{e^x + 1} \right\} = \frac{1}{1^2} \frac{1}{1 + (\pi/x)^2} + \frac{1}{3^2} \frac{1}{1 + (\pi/x)^2} + \dots$$

$$= \frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \dots - \left\{ \frac{(\pi/x)^2}{1 + (\pi/x)^2} + \frac{(3\pi/x)^2}{1 + (3\pi/x)^2} + \dots \right\};$$

$$\text{therefore, since } \frac{\pi^2}{8} = \frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \dots,$$

$$\text{we have } \frac{\pi^2 e^{x/2} - e^{-x/2}}{4x e^{x/2} + e^{-x/2}} = \frac{1}{1 + (x/\pi)^2} + \frac{1}{3^2} \frac{1}{1 + (x/3\pi)^2} + \dots,$$

[The rest in Volume.]

11943. (R. TUCKER, M.A.)—The distances OA, OB, OC of a point O from the angles of an equilateral triangle are a, b, c ; if a triangle can be formed with these lengths as sides, prove that, with usual notation, if x is a side of the equilateral triangle, then $x^2 = 2\lambda \cos(60^\circ \pm \omega)$.

Solution by Professors DROZ, FARNY, SARKAR, and others.

Si le problème est possible, ce qui a lieu lorsque le point O ne se trouve ni sur la circonférence circonscrite ni sur les côtés du triangle, on a en utilisant la formule du Quest. 11869,

$$x^4 - \kappa x^2 + \lambda^2 - 16\Delta^2 = 0,$$

$$\Delta = \text{triangle formé par } a, b, c, \text{ et } \kappa^2 - 4\lambda^2 = -16\Delta^2,$$

$$\text{donc } x^2 = \frac{1}{2} (\kappa \pm 4\Delta \sqrt{3}). \quad [\text{The rest in Volume.}]$$

11587. (Professor SOLLERTINSKY.)—Soient D, E les projections du sommet A d'un triangle ABC sur le côté BC et sur la médiatrice ME de ce côté. Démontrer que la droite DE passe par le sommet A_2 du second triangle de Brocard, et que $EA_2 = (AB^2 + AC^2)/4AM$.

Solution by W. J. GREENSTREET, M.A.

Let the median AM meet the circum-circle in N, and the symmedian AK meet the diagonal ED in P and the circum-circle in L. Then,

$$\text{as } \angle BBM = \angle CAL, \quad \widehat{BN} = \widehat{CL},$$

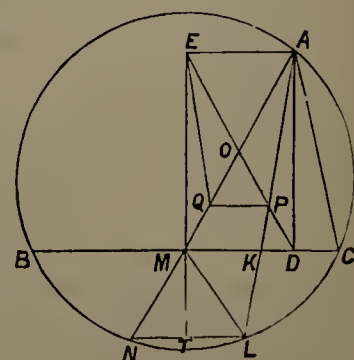
and, by a well-known problem, NL is parallel to BC.

Hence EM, perpendicular to and bisecting BC, performs the same office for NL; so that

$$\angle TML = \angle NMT = \angle AME = \angle MEO$$

or ED is parallel to ML.

[The rest in Volume.]



11451. (Professor SOLLERTINSKY.)—Sur les côtés d'un angle fixe XAY on prend des longueurs variables AB, AC telles que

$$1/(AB)^2 + 1/(AC)^2 = 2/p^2.$$

Démontrer que le côté BC enveloppe une ellipse dont les diamètres conjugués égaux sont dirigés suivant AX, AY; les demi-axes de cette ellipse sont égaux à $p \cos \frac{1}{2}A$, $p \sin \frac{1}{2}A$. La droite BC touche son enveloppe au pied K de la symédiane AK du triangle ABC.

Solution by J. H. GRACE; Professor SARKAR, M.A.; and others.

Taking XA and AY as axes, the tangential equation of the envelope of BC is $l^2 + m^2 = 2/p^2$, and therefore the equation of the envelope is $x^2 + y^2 = \frac{1}{2}p^2$, which proves that the envelope is an ellipse having AX, AY for equi-conjugates. Each equi-conjugate = $p/\sqrt{2}$. If then a and b are the semi-axes, we have

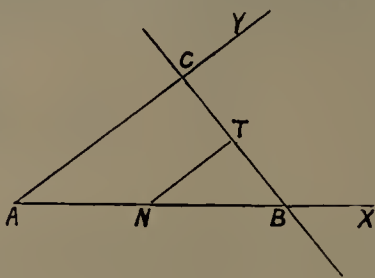
$$a^2 + b^2 = p^2,$$

$$\text{and } ab = \frac{1}{2}p^2 \sin A = p^2 \sin \frac{1}{2}A \cos \frac{1}{2}A;$$

$$\therefore a = p \sin \frac{1}{2}A \text{ and } b = p \cos \frac{1}{2}A,$$

or *vice versa*.

[The rest in Volume.]



800. (MORTIMER COLLINS.)—Solve the functional equations

$$\phi(\psi x) = 16x, \quad \psi(\phi x) = x^4.$$

Solution by E. WHITE, B.A.

We have $\phi[\psi\{\phi(x)\}] = 16\phi(x)$ or $\phi(x^4) = 16\phi(x)$.

Let $x = u_t$, $x^4 = u_{t+1}$, $\phi(x) = v_t$, $\phi(x^4) = v_{t+1}$;

then $v_{t+1} = 16v_t$, $u_{t+1} = u_t^4$; hence, eliminating t between the solutions of these, $\phi(x) = a(\log x)^2$; thus we have

$$\phi^{-1}(x) = \exp(x/a)^{\frac{1}{2}}, \quad \psi(x) = \{\phi^{-1}(x)\}^4 = \exp 4(x/a)^{\frac{1}{2}}.$$

11933. (Professor NEUBERG.)—Soient A' , B' , C' , D' les projections des sommets d'un tétraèdre ABCD sur un plan quelconque P, et soient A_1 , B_1 , C_1 , D_1 les orthocentres des triangles $B'C'D'$, $C'D'A'$, $D'A'B'$, $A'B'C'$. Démontrer (1) que les perpendiculaires menées des points A' et A_1 sur le plan BCD, de B' et B_1 sur CDA, de C' et C_1 sur DAB, de D' et D_1 sur ABC sont sur un même hyperboloïde; (2) que les perpendiculaires abaissées des milieux des droites $A'A_1$, $B'B_1$, $C'C_1$, $D'D_1$ respectivement sur les plans ACD, CDA, DAB, ABC, concourent en un même point (centre de l'hyperboloïde).

Solution by Professor A. DROZ FARNY.

Représentons par a' , a_1 , α les perpendiculaires abaissées de A' , A_1 et du milieu de $A'A_1$; de même pour les droites analogues.

Le plan mené par b' et $B'A_1$ étant perpendiculaire sur ACD et CDC'D' est perpendiculaire sur leur ligne d'intersection CD, et par conséquent sur BCD; de même les plans menés par c' et $C'A_1$ et par d' et $D'A_1$ sont perpendiculaires sur BCD; ces trois plans admettent donc une ligne d'intersection commune perpendiculaire à BCD, et qui n'est rien d'autre que a_1 ; a_1 rencontre donc les perpendiculaires b' , c' , d' en des points finis et sa parallèle α' à l'infini. On démontrerait de même que b_1 , c_1 , d_1 rencontrent ces 4 droites; $a'b'c'd'$, $a_1b_1c_1d_1$ sont donc 8 génératrices d'un même hyperboloïde; les 4 premières appartenant au même système, les 4 dernières au second système. On sait que si dans un hyperboloïde l et g sont 2 génératrices parallèles, la droite située à égale distance des deux passe par le centre de l'hyperboloïde; or a' et a_1 sont parallèles et α est située dans le même plan et à égale distance des deux donc α et de même β , γ , δ se croisent au centre de l'hyperboloïde.

11999. (J. BLATER.)—The first (I) of n persons gives to each of the remaining $n-1$ persons x times as much as each already possesses. Then II (the second person) gives in the same manner to each of the remaining $n-1$ persons. III, IV, ... (and finally the last person) give likewise in order, so that at last each has given to all the others the x^{th} multiple of what each possesses at the moment. When this has been completed, each person has an equal share. Example: If there are five persons, and $x = 1$, the initial shares may be respectively 81, 41, 21, 11, 6 pounds, and the final share of each 32 pounds. Required general formulæ for the initial and final shares.

Solution by the PROPOSER; T. SAVAGE, M.A.; and others.

The general formula is

$$x\{(x+1)^{n-1} + (x+1)^{n-2} \dots (x+1)^2 + (x+1) + 1\} + 1 = (x+1)^n,$$

from which we may derive the following forms:—

$$\text{I, } anx(x+1)^{n-1} + a; \quad n-2, \text{ } anx(x+1)^2 + a;$$

$$\text{II, } anx(x+1)^{n-2} + a; \quad n-1, \text{ } anx(x+1) + a;$$

$$\dots \dots \dots n, \text{ } anx + a.$$

The sum of the n forms is $an(x+1)^n$. Here a may be an arbitrary number. To avoid a fraction, only integers are to be substituted for a . Further, if x is less than 1, and only integers are admitted, then for a only $(1/x)^n$ or a multiple of $(1/x)^n$ is to be taken. [The rest in Volume.]

11885. (I. ARNOLD.)—A point p and a right line being given in position, find the locus of another point q , so that pq^2 shall be equal to the rectangle under the perpendicular qc (on the given line) and a given line m .

Solution by W. J. DOBBS, B.A.; Professor ZERR; and others.

Draw pa perpendicular to the given line, and produce it to p' , making $pa = ap'$. Also produce ap to k , making $pk = \frac{1}{2}m$. About $pp'q$ describe a circle cutting qc produced in q' , so that evidently $eq' = qc$; then

$$pq^2 = qq' \cdot pk.$$

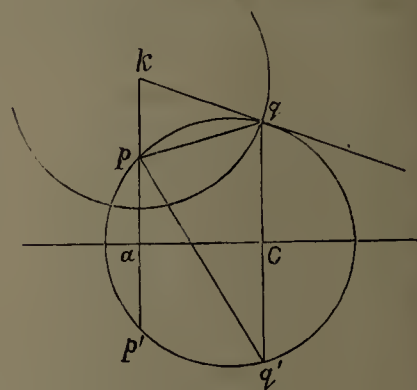
$\therefore$ triangles kpq , pqq' are similar;

$\therefore kq$ is tangent at q ;

$\therefore kq^2 = kp \cdot kp'$, a constant.

But k is a fixed point; therefore locus required is a circle, centre k .

[Analytically the solution is obvious.]



11958. (Professor H. L. ORCHARD, M.A., B.Sc.)—In a circle of unit radius is inscribed an equilateral triangle; in this triangle is inscribed a circle, and in this circle another equilateral triangle, and so on—equilateral triangles and circles being inscribed alternately one within another. Prove that the sum of the areas of all the circles is $\frac{4}{3}\pi$ square units.

Solution by C. MORGAN, M.A.; T. SAVAGE; and others.

Since $2r = R = 1$, the sum of the areas of all the circles is

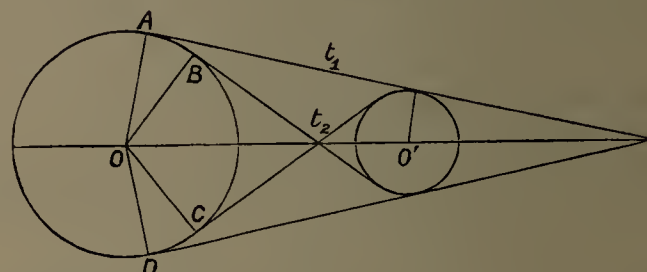
$$\pi \{1^2 + (\frac{1}{2})^2 + (\frac{1}{4})^2 \dots \text{to infinity}\} = \frac{4}{3}\pi \text{ square units.}$$



11928. (Professor CURTIS, M.A.)—The lengths of the common tangents to two circles are t_1 and t_2 ; show that the anharmonic ratio of the points in which they cut any other tangent is $(t_1 - t_2)/(t_1 + t_2)$.

Solution by the PROPOSER.

Let $OO' = D$, the two radii be r_1 and r_2 , $AOO' = \alpha$, and $BOO' = \beta$.



Then the ratio is that of

$$(ABCD) = \frac{\sin^2 \frac{1}{2}(\alpha - \beta)}{\sin^2 \frac{1}{2}(\alpha + \beta)} = \frac{1 - \cos(\alpha - \beta)}{1 + \cos(\alpha + \beta)}.$$

$$\text{But } \cos \alpha = \frac{r_1 - r_2}{D}, \cos \beta = \frac{r_1 + r_2}{D}, \sin \alpha = \frac{t_1}{D}, \sin \beta = \frac{t_2}{D};$$

$$\therefore \text{anharmonic ratio} = \frac{D^2 - (r_1^2 - r_2^2) - t_1 t_2}{D^2 - (r_1^2 - r_2^2) + t_1 t_2} = \frac{t_1^2 - t_1 t_2}{t_1^2 + t_1 t_2} = \frac{t_1 - t_2}{t_1 + t_2}.$$

8162. (By Professor DE LONGCHAMPS.)—Soient Δ , Δ' deux parallèles, et Δ'' la parallèle équidistante; soit aussi AA' une perpendiculaire commune à Δ et à Δ' . Ayant pris un point M, arbitrairement, dans le plan de ces droites, MA et MA' rencontrent Δ'' , respectivement, aux points B et C. On projette B en B' sur Δ' ; et C en C' sur Δ . Démontrer que les trois points C', M, B' sont en ligne droite.

Solution by H. W. CURJEL, B.A.

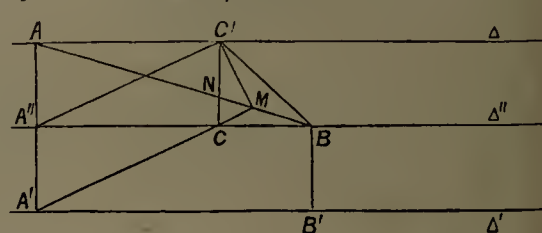
Let AA' cut Δ'' in A'' , and let AM cut CC' in N. Then $A'A''$, CC' , BB' are equal and parallel; therefore $A'A''C'C$, $CC'BB'$ are parallelograms.

$$\Delta BMC' + \Delta C'NM = \Delta BC'N = \Delta ACN;$$

$$\Delta CNA + \Delta NMC = \Delta ACM = 2\Delta MCC' = \Delta MCC' + \Delta NMC' + \Delta MNC;$$

$$\therefore \Delta MCC' = \Delta BMC'; \quad \therefore C'M \text{ passes through } B'.$$

[The rest in Volume.]



11714. (J. W. RUSSELL, M.A.)—Four equal similar uniform rods are joined together to form the sides of a square. The square is set floating vertically in a liquid. Show that, if the density of the liquid lies between three and four times that of the rods, then the square can float with one corner only immersed, and with neither diagonal horizontal.

Solution by the PROPOSER.

The centres of gravity of AL, AM are $(\frac{1}{2}\lambda, 0)$, $(0, \frac{1}{2}\mu)$; therefore H is

$$\frac{\mu^2}{2(\lambda + \mu)}, \frac{\lambda^2}{2(\lambda + \mu)},$$

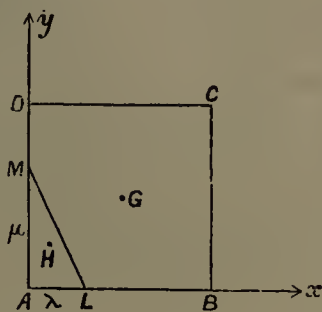
and G is α, α , and GH is perpendicular to LM; hence

$$\left(a - \frac{\mu^2}{2(\lambda + \mu)}\right) / \left(a - \frac{\lambda^2}{2(\lambda + \mu)}\right) = \frac{\lambda}{\mu}.$$

Also $\rho(\lambda + \mu) = 8a\sigma$,

or $\lambda + \mu = 2c$, say.

[The rest in Volume.]



11541. (A. J. PRESSLAND, M.A.)—Examine the following approximations to the side of the regular inscribed hendecagon: (1) take a radius BC, bisect it at D, make the chord BA equal to the side of the regular 17-gon, and assume DA the side of the 11-gon; and (2) one-fifth the diagonal of the circumscribed square.

Solution by H. J. WOODALL, A.R.C.S.

(1) Side of 11-gon = $2r \sin \frac{1}{11}\pi$,

side of 17-gon = $2r \sin \frac{1}{17}\pi$.

In fig., $AB^2 + AC^2 = 2AD^2 + 2DC^2$:

$$\therefore AD^2 = \frac{1}{4}(2AB^2 + AC^2).$$

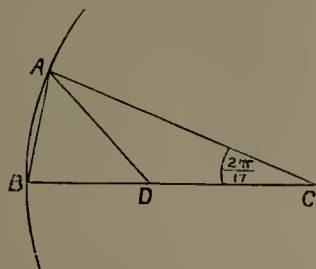
$AD = \frac{1}{2}r(1 + 8 \sin^2 \frac{1}{17}\pi)^{\frac{1}{2}} = .5635r$,

which is a trifle too much.

$$AD = 2r \sin \frac{1}{11}\pi = .56346 \cdot r.$$

(2) $AD = \frac{1}{5} \times 2 \sqrt{2} \cdot r = r \times \frac{1}{5}(2 \cdot 8284) = .5657r$, .4 per cent. too much.

[Mr. PRESSLAND finds the angle to be in (1) $32^\circ 44' 29''$, in (2) $32^\circ 51' 35''$, instead of $32^\circ 43' 38''$, which is the true angle.]



1685. (Professor NEUBERG.)—On divise l'aire d'un cercle en n parties égales au moyen de cordes issues d'un point fixe de la circonférence. Trouver la moyenne arithmétique des longueurs de ces cordes lorsque n croît indéfiniment.

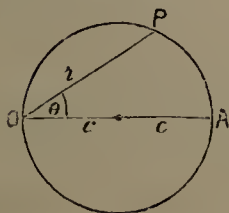
Solution by C. MORGAN, M.A.; H. W. CURJEL, B.A.; and others.

Mean length of chord

$$= 1/n \cdot (r_1 + r_2 + \dots)$$

$$= 1/n \cdot (r_1 + r_2 + \dots) \frac{1}{2} r^2 d\theta$$

$$= \frac{1}{2} \int_{-\frac{1}{2}\pi}^{\frac{1}{2}\pi} r^3 d\theta = \frac{4c^3}{\pi c^2} \int_{-\frac{1}{2}\pi}^{\frac{1}{2}\pi} \cos^3 \theta d\theta = \frac{16c}{3\pi}.$$



QUESTIONS FOR SOLUTION.

12020. (Professor SYLVESTER.)—Find the general values of n and r , as rational integral functions of x , which satisfy the equations

$$u^2 + l (du/dx)^2 = r^2 \dots (1); \quad u^2 + l (du/dx)^2 = v^2 + \lambda (dv/dx)^2 \dots (2).$$

12021. (Professor CLAYTON.)—Two conics touch at O. If P, Q be the points of contact of a common tangent, and A, B be their points of intersection (distinct from O), then the lines OP, OQ divide AB harmonically.

12022. (Professor ZERR.)—A distance equal to the abscissa of a point is measured off on a normal to a circle; show that the locus of this point is $\rho^2 = 2a^2 - a^2 \sin^2 \theta \pm 2a^2 \cos \theta$, + or - as the distance is measured outwards or inwards; prove that the area of this curve is $\frac{2}{3}\pi a^2 \pm 4a^2$.

12023. (Professor BIGOT.)—Construire un triangle, connaissant un côté, un angle adjacent, et le rapport de la surface de ce triangle à cello du triangle formé par les deux bissectrices de l'angle donné et le côté opposé. Examiner en particulier le cas où le rapport est égal à 2.

12024. (Professor DUPONCEAU.)—Soient A, B, C, et D quatre points fixes d'un cercle O, P un point quelconque du plan, Q et R les points où les droites PC et PD coupent le cercle O. Trouver le lieu du second point d'intersection des cercles PQB et PRA quand le point P varie d'une manière quelconque.

12025. (Professor DÉPREZ.)—On donne deux circonférences de rayons R, r. Quelle doit être la distance des deux centres pour qu'on puisse décrire une circonférence touchant les circonférences données, leur ligne des centres et une tangente commune?

12026. (Professor SOLLERTINSKY.)—D'un point D pris sur une tangente DA à une circonférence donnée O, menez une sécante DBC de manière que la droite joignant les points de Brocard du triangle ABC soit perpendiculaire à BC. Démontrer que l'orthocentre du triangle est situé sur le diamètre DO et que l'aire du triangle est maximum.

12027. (Professor NEUBERG.)—On porte sur les côtés BA, CA d'un triangle ABC les longueurs AB₁, AC₁ égales à BC; sur les côtés CB, AB, les longueurs BC₂, BA₂ égales à CA; sur les côtés AC, BC les longueurs CA₃, CB₃ égales à AB. Trouver la surface de l'hexagone A₂A₃, B₃B₁, C₁C₂.

12028. (Professor DROZ FARNY.)—Par un point fixe de l'axe d'une parabole on mène une sécante variable qui coupe cette dernière aux points A et B. On construit les circonférences qui passent par le sommet de la parabole et lui sont tangentes en A et B. Chercher le lieu de leur second point d'intersection.

12029. (Professor BOURRIENNE.)—On donne dans le plan d'un cercle O, une droite LL' et un point P. Sur LL', on considère deux points variables C, D, équidistants du centre O et extérieurs au cercle; des points C, D on mène deux droites tangentes en E, F au cercle et se coupant en M. Trouver (1) le lieu de M (deux cas); (2) les lieux des centres des cercles inscrit et circonscrit au triangle MEF, ainsi que le lieu du point de concours des hauteurs; (3) le lieu du centre du cercle circonscrit au triangle PEF.

12030. (Professor AYAR.)—Prove that two given systems of co-Brocardal harmonic n -gons in a circle can be inverted into each other.

12031. (Professor IGNACIO BEYENS.)—Soient A, B, C, D quatre points d'une circonférence. Les perpendiculaires élevées en A et B sur la corde AB, et les perpendiculaires élevées en C et D sur la corde CD forment un parallélogramme. La même construction étant appliquée aux cordes AC et BD, on aux cordes AD et BC, donne deux autres parallélogrammes. Démontrer que ces trois parallélogrammes ont pour centre commun le centre du cercle ABCD et que leurs diagonales sont perpendiculaires aux côtés du triangle qui a pour sommets les points de concours des couples de cordes AB et CD, AC et BD, AD et BC.

12032. (Professor MORLEY.)—A tetrahedron, whose opposite edges are equal, is treated conveniently by considering four corners of a rectangular box, no two of which form an edge of the box (CAYLEY'S *Collected Papers*, Vol. v., p. 559). There are five spheres which touch the faces of such a tetrahedron. Prove that their centres are the centre of the box and its four remaining corners.

12033. (Professor CAVALLIN, M.A.)—Find the value of the integral

$$\int_0^{\frac{1}{2}\pi} \left\{ \frac{1}{[1 - (a + b \cos \theta)^2]^{\frac{1}{2}}} + \frac{1}{[1 - (a - b \cos \theta)^2]^{\frac{1}{2}}} \right\} \sin^r \theta d\theta,$$

where $a = \cos \alpha \cos \beta$, and $b = \sin \alpha \sin \beta$, for $r = 1, 2$, and, if possible, generally.

12034. (Professor LUCAS.)—Par un point P du plan d'un triangle passent deux hyperboles équilatères, l'une circonscrite, l'autre conjuguée au triangle. Déterminer en coordonnées trilineaires les équations de ces hyperboles et l'équation du cercle qui passe par les trois points d'intersection de ces deux hyperboles, autres que le point P.

12035. (Professor DELIAC.)—Étant données deux forces P, Q, non situées dans un même plan, trouver leur résultante générale, la position de l'axe central de réduction et la grandeur du couple minimum. Discuter en supposant que, l'angle des forces restant constant, ainsi que la force P, la force Q varie de $-\infty$ à $+\infty$.

12036. (Professor RINDL.)—Soient AA', BB' deux médianes du triangle ABC; démontrer que les cercles décrits sur AA' et BB' comme diamètres ont pour axe radical la hauteur de ABC qui correspond au sommet C.

12037. (Professor DELAHAYE.)—Si M est le point de rencontre des diagonales AC, BD d'un quadrilatère ABCD, on a la relation

$$AC \cdot BD = \{(AB^2 - BC^2) MD + (AD^2 - DC^2) MB\} / (AM - MC).$$

12038. (Professor CLIFFORD, F.R.S.)—A tangent to an ellipse is a chord of a concentric circle, whose radius is equal to the distance between the ends of the axes of the ellipse; show that the straight lines which join the ends of the chord to the centre are conjugate diameters.

12039. (Prof. BARISIEN.)—Un cercle (C) coupe une conique (Σ) en quatre points. Par ces quatre points on fait passer une hyperbole équilatère (H). Quel que soit le cercle (C), le rapport des distances respectives du centre de (Σ) aux centres de (C) et de (H) est constant.

12040. (EDITOR.)—Through each angle of a triangle let two straight lines be drawn, equally inclined to the bisectors of those angles, but the inclination not necessarily the same for each of the three pairs; prove that the straight lines joining the intersections of these lines will meet the corresponding sides of the triangle in three points which will be in the same straight line.

12041. (W. J. GREENSTREET, M.A.)—Sum to n terms the series whose r th terms are respectively

$$2r - 1, \quad (2r - 1)(2r + 1)(2r + 3) \sin r\theta, \\ (4r - 3)(4r + 1)(4r + 5), \quad \{3r - 2\}(3r + 1)(3r + 4)\}^{-1}, \quad \{\cos r\theta \cos (r + 1)\theta\}^{-1}.$$

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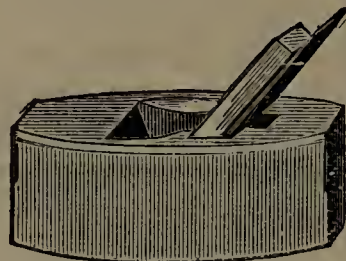
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Cowley	Essays	"	4/-
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6. EDUCATIONAL SCIENCE.

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"	Theory and Practice of Teaching	"	4/6

7. MATHEMATICS.

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"	Mechanics and Hydrostatics	"	4/6
Smith, C.	Arithmetic for Schools	"	3/6

CLASS LIST

OF PUPILS WHO HAVE PASSED THE MIDSUMMER EXAMINATION OF THE COLLEGE OF PRECEPTORS.

[Throughout the following List, bracketing of names implies equality.]

SCHOLARSHIPS for Intending Teachers.

Powell, F. G.	Mr. Cooper, Paignton School.
Whittington, E. W.	Rev. E. Senior, Royal Grammar School, Sheffield.
Fentiman, Miss B. C.	Mr. Turner, Dunheved College, Launceston.
Smith, Miss E.	Miss Bowen, Red Maids' School, Bristol.

PRIZES.

General Proficiency.*

1. May, O.	Mr. W. Brown, Tollington Park College, N.
(Isbister Prize.)	
2. Whittington, E. W.	Rev. E. Senior, Royal Grammar School, Sheffield.
(Pinches Prize.)	
3. Harrison, W.	Mr. W. Brown, Tollington Park College, N.
4. Stradling, W.	Mr. Bland, Devon County School, West Buckland.

Mathematics.†

1. Stradling, W.	Mr. Bland, Devon County School, West Buckland.
2. May, O.	Mr. W. Brown, Tollington Park College, N.

* Miss E. C. H. Dannatt, The College, Huddersfield, was disqualified for the Second Prize for General Proficiency, in consequence of being over eighteen years of age at the commencement of the Examination.

† J. H. Millett, Stoke Public Higher School, Devonport, was disqualified for the Second Prize for Mathematics, in consequence of having obtained it at a previous Examination.

Classics.‡

1. Hutton, F. B.	Rev. J. Hirst, Ratcliffe College, Leicester.
2. { Heath, G. R.	Rev. W. T. Titterton, Fulneck School, Leeds.
{ Loseby, P. J.	Rev. L. H. Pearson, Grammar S., Market Bosworth.

English Subjects.

1. Fright, R. S.	Messrs. Clarke & Crichton, Forest Hill Mid. Class S.
2. Ambler, F. B.	Mr. W. Brown, Tollington Park College, N.

Modern Foreign Languages.||

1. Nicholls, W. H.	Mr. W. Brown, Tollington Park College, N.
2. Sedgwick, Miss V. M. H.	Miss Cheveley, The College, Huddersfield.

Natural Sciences.¶

1. Watson, E. F.	Mr. Stewart, University School, Hastings.
2. Harrison, W.	Mr. W. Brown, Tollington Park College, N.

Taylor-Jones Prize for Scripture History.

Landells, Miss H. J.	Miss Mills, Stroud Green High School, N.
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‡ Miss L. M. Wood, Cheltenham Public School for Girls, was disqualified for the First Prize for Classics, in consequence of being over eighteen years of age at the commencement of the Examination.

|| F. Elie, University School, Hastings, was disqualified for the Second Prize for Modern Foreign Languages, in consequence of being over eighteen years of age at the commencement of the Examination.

¶ B. H. Stewart, University School, Hastings, was disqualified for the Second Prize for Natural Sciences, in consequence of being over eighteen years of age at the commencement of the Examination.

List of the Candidates who were First and Second in each Subject of Examination.

Scripture History.

1. Landells, Miss H. J.	Miss Mills, Stroud Green High School, N.
{ Dannatt, Miss E. C. H.	Miss Cheveley, The College, Huddersfield.
Fitch, E. W.	Mr. Stewart, University School, Hastings.
2. { Lee, Miss M.	Mrs. Dix, Merton College, Croydon.
Loseby, Miss U.	Private tuition.

English Language.

1. { Ambler, F. B.	Mr. W. Brown, Tollington Park College, N.
Fright, R. S.	Messrs. Clarke and Crichton, Forest Hill Middle Class S.

English History.

1. Ford, E. B.	Mr. Stewart, University School, Hastings.
2. Dengate, W. A.	Mr. La Touche, The Grammar School, Hastings.

Geography.

1. { Harrison, W.	Mr. W. Brown, Tollington Park College, N.
Landells, Miss H. J.	Miss Mills, Stroud Green High School, N.

Arithmetic.

1. Williams, G. C.	Rev. R. Alliot, Nonconformist Gram. S., Bishop's Stortford.
2. Watson, E. F.	Mr. Stewart, University School, Hastings.

Algebra.

1. Millett, J. H.	Mr. Rider, Stoke Public Higher School, Devonport.
2. Stradling, W.	Mr. Bland, Devon County School, West Buckland.

Euclid.

1. Stradling, W.	Mr. Bland, Devon County School, West Buckland.
2. Millett, J. H.	Mr. Rider, Stoke Public Higher School, Devonport.

Trigonometry.

1. { Powell, F. G.	Mr. Cooper, Paignton School.
Stradling, W.	Mr. Bland, Devon County School, West Buckland.

Mechanics.

1. Raby, H.	Private tuition.
2. Whittington, E. W.	Rev. E. Senior, Royal Grammar School, Sheffield.

Bookkeeping.

1. { Northcott, W. C.	Private tuition.
Reynolds, H. W.	Mr. W. Brown, Tollington Park College, N.

Mensuration.

1. Kay, A. J.	Mr. Mullock, Collett House School, Bournemouth.
2. Owen, C. W.	Mr. Bayley, Wellington College, Salop.

French.

1. Elie, F.	Mr. Stewart, University School, Hastings.
2. Horman, C. G.	Mr. Parlett, St. James' Collegiate School, Jersey.

German.

1. Sedgwick, Miss V. M. H.	Miss Cheveley, The College, Huddersfield.
2. Woolcott, Miss A.	Mrs. Dix, Merton College, Croydon.

Italian.

1. Franchi, Miss S.	Private tuition.
2. Nicholls, W. H.	Mr. W. Brown, Tollington Park College, N.

Spanish.

1. Lascrain, J. A.	Mr. Butt, St. James' School, Slough.
2. Ricketts, L.	Very Rev. Dr. Casartelli, St. Bede's College, Manchester.

Latin.

1. { Rose, E. F.	Private tuition.
Wood, Miss L. M.	Miss Bostock, Cheltenham Public School for Girls.

Greek.

1. Hutton, F. B.	Rev. J. Hirst, Ratcliffe College, Leicester.
2. Wood, Miss L. M.	Miss Bostock, Cheltenham Public School for Girls.

Hebrew.

1. Phillips, M.	Mr. Stewart, University School, Hastings.
2. Tobias, Miss B. A.	Miss Reed, Avenue College, 47 Elgin Avenue, W.

Sound, Light, and Heat.

1. Wood, Miss L. M.	Miss Bostock, Cheltenham Public School for Girls.
2. Shaw, J.	Private tuition.

Electricity and Magnetism.

1. Staton, H.	Mr. Isherwood, University School, Southampton.
2. Stewart, B. H.	Mr. Stewart, University School, Hastings.

Chemistry.

1. { Powell, F. G.	Mr. Cooper, Paignton School.
Taylor, A. G.	Mr. Gubb, Taunton's Trade School, Southampton.

Natural History.

1. Watson, E. F.	Mr. Stewart, University School, Hastings.
2. Harrison, W.	Mr. Brown, Tollington Park College, N.

Drawing.

1. { Hincks, Miss F. E.	The Misses Nainby and Jones, Clyde Villa S., W. Hampstead.
Kay, A. J.	Mr. Mullock, Collett House School, Bournemouth.
Smith, Miss E.	Miss Bowen, Red Maid's School, Bristol.

Music.

1. { Dupont, O. C.	Mr. G. Brown, St. John's College, Green Lanes, N.
Ingram, P. T.	Mr. Kirk, University School, Stroud Green, N.

Political Economy.

1. { Dannatt, Miss E. C. H.	Miss Cheveley, The College, Huddersfield.
Hebard, S. C.	Mr. Tabor, Horsmonden School.
Jackson, Miss F. E.	Miss Mills, Stroud Green High School, N.
Meek, Miss S. J.	Miss Pope, Penrhôs College, Colwyn Bay.

GENERAL CLASS LIST — BOYS.

N.B.—In the following lists, the small italic letters denote that the Candidate to whose name they are attached obtained a Special Certificate in the following subjects respectively:

a. = Arithmetic.
al. = Algebra.
bk. = Bookkeeping.
ch. = Chemistry.
d. = Drawing.

e. = English.
el. = Electricity.
eu. = Euclid.
f. = French.
g. = Geography.

gr. = Greek.
ger. = German.
h. = History.
heb. = Hebrew.
i. = Italian.

l. = Latin.
m. = Mechanics.
ms. = Mensuration.
mu. = Music.
nat. = Natural History.

p. = Political Economy.
s. = Scripture.
sh. = Shorthand.
sd. = Sound, Light, & Heat.
sp. = Spanish.
tr. = Trigonometry.

FIRST CLASS.—HONOURS DIVISION.

May, O. Tollington Park College, N.
e. al. tr. f. ger. nat.
Whittington, E. W. Royal Grammar School, Sheffield.
tr. f. ger. d.
Harrison, W. Tollington Park College, N.
e. g. bk. ger. nat. d.
Stradling, W. Devon County S., West Buckland.
s. a. al. eu. tr. f.
Ambler, F. B. Tollington Park College, N.
s. e. el. ch.
Pascoe, E. e. bk. mu. St. John's College, Green Lanes, N.
Illingworth, J. P. Almondbury Grammar School.
tr. ms. f. d.
Fright, R. S. s. e. a. Forest Hill Middle Class School.
Reynolds, H. W. Tollington Park College, N.
e. tr. bk.
Nicholls, W. H. Tollington Park College, N.
bk. f. ger.
Powell, F. G. a. tr. ch. Paignton School.
Holyoake, S. al. tr. l. Gunnersbury College.
Pearson, W. H. f. l. d. Whitechurch Grammar School.
Dengate, W. A. Hastings Grammar School.
Heath, G. R. Fulneck School, Leeds.
s. f. ger. l. gr.
Chandler, T. R. bk. ger. Tollington Park College, N.
Fitch, E. W. s. bk. nat. University School, Hastings.
Clarke, F. C. a. tr. f. Plymouth Corporation Grammar S.
Raby, H. al. m. Private tuition.
Loseby, P. J. e. l. d. Grammar School, Market Bosworth.
Houghton, H. Almondbury Grammar School.
Ford, E. B. s. h. bk. University School, Hastings.
Millet, J. H. Stoke Public Hr. School, Devonport.
g. a. al. tr. el.
Simmons, F. A. s. a. bk. Halstead Grammar School.
Hope, J. C. tr. Banham Grammar S., Attleborough.
Rice, R. T. a. Woodhouse Grove S., Apperley Bdge.
Williams, G. C. a. bk. Nonconform. Gram. S., Bp. Stortford
Calderara, A. E. bk. Tollington Park College, N.
Richards, J. B. Quernmore House S., Bromley, Kent
Lake, B. Truro College.
Hebard, S. C. d. p. Horsmonden School.
Lenfestey, S. de J. Private tuition.
Holden, D. f. Brunswick House School, Windsor.
Randell, P. G. Hastings Grammar School.
Benians, E. A. s. Bethany House S., Goudhurst.
Edwards, C. J. ch. Truro College.
Wragg, E. bk. d. The Grammar School, Chesterfield.
Hogg, W. G. s. Newport Gram. S., Isle of Wight.
Lister, E. A. J. f. ger. Dean Close Memorial S., Cheltenham
Owen, J. A. G. Wellington College, Salop.
Besley, W. E. Heavitree Collegiate S., Exeter.
Meadows, P. el. mu. Farnwood Grammar School.
Rattenbury, H. B. Woodhouse Grove S., Apperley Bdge.
e. a. al.
Porter, W. G. St. James' Collegiate S., Jersey.
White, J. T. g. Truro College.
Butcher, W. J. e. St. Bede's College, Manchester.
Clark, J. St. Joseph's College, Dumfries.
Tomlin, R. P. a. d. Edward VI. Gram. S., Wymondham.
Tolerton, W. Wellington College, Salop.
Staton, H. el. ch. University School, Southport.
Williams, S. G. Tollington Park College, N.
Byles, H. H. d. Nonconform. Gram. S., Bp. Stortford
Smith, H. a. Halstead Grammar School.
Brown, H. G. S. St. John's College, Green Lanes, N.
Farrow, C. f. St. Joseph's College, Dumfries.
King, F. H. d. Grammar School, Eye.
Redfern, G. H. St. John's College, Green Lanes, N.
Thomson, W. ger. l. Ripon Grammar School.
Thornton, S. W. Avenue House School, Sevenoaks.
Robinson, F. S. bk. Collegiate School, Belper.
Weeks, V. St. Mary's College, Woolhampton.
Clowes, E. N. d. Nonconform. Gram. S., Bp. Stortford
Jack, H. S. M. Hastings Grammar School.
Brearley, J. W. f. d. Quernmore House S., Bromley, Kent.
Sumner, E. Hindley Grammar School.

FIRST CLASS.—PASS DIVISION.

Sabin, C. W. Kentish Town High School.
Holmes, A. M. d. Collegiate School, Belper.
Dannatt, N. H. Almondbury Grammar School.
Paterson, J. B. Taunton's Trade S., Southampton.
Sellers, G. B. d. Tollington Park College, N.
Wilkinson, J. B. University School, Hastings.
Long, B. E. d. Nonconform. Gram. S., Bp. Stortford
Nash, L. St. John's College, Green Lanes, N.
Shaw, J. a. ger. sd. Private tuition.
Dadd, W. bk. St. John's College, Green Lanes, N.
Bashforth, G. A. d. Witton Grammar S., Northwich.
Capsey, H. V. d. Wellington College, Salop.
Henwood, E. J. Truro College.
Farnfield, J. S. Hastings Grammar School.
Irving, C. M. T. d. Tollington Park College, N.
Harrison, E. H. University School, Stroud Green.
Muzen, J. W. f. Hungate School, Pickering.
Robson, W. W. Newcastle-on-Tyne Modern School.
Chambers, A. G. d. Woodhouse Grove S., Apperley Bdge.

Lupton, W. E. s. Private tuition.
Kidner, H. R. Bethany House School, Goudhurst.
Newton, J. E. University School, Southport.
Sang, A. F. f. Ratcliffe College, Leicester.
Metcalfe, F. Archbishop Holgate's School, York.
Millington, J. P. Wellington College, Salop.
Nash, H. E. Tollington Park College, N.
Price, T. L. University School, Hastings.
Busck, G. Bethany House School, Goudhurst.
Bloss, W. E. bk. University School, Stroud Green.
Loseby, R. A. Grammar School, Market Bosworth.
Riley, O. bk. Archbishop Holgate's School, York.
Wyatt, F. Richmond House S., Handsworth.
Fuller, W. E. d. Rye Grammar School.
Holland, W. H. d. Truro College.
List, W. E. d. St. John's College, Green Lanes, N.
Thorpe, C. H. Grammar School, Market Bosworth.
Cole, S. D. 115 Elswick Road, Newcastle-on-T.
Paterson, H. J. Wellington College, Salop.
Rutt, M. St. John's College, Green Lanes, N.
Littlejohn, A. T. Tollington Park College, N.
Hetherington, H. Devon County S., West Buckland.
Mulcahy, T. J. A. mu. St. Mary's College, Woolhampton.
Phillips, M. d. University School, Hastings.
Briggs, G. F. Tollington Park College, N.
Smith, D. Dulwich College.
Twedy, T. V. Witton Grammar S., Northwich.
Spong, A. Leeds Grammar School.
Rayner, A. B. Tollington Park College, N.
Hime, E. E. E. St. James's School, Slough.
Orford, H. J. d. Grammar School, Market Bosworth.
Martin, G. T. B. St. Mary's College, Woolhampton.
Croggon, L. Bussage House, Stroud.
Hertslet, L. E. Tollington Park College, N.
Malpas, E. J. Private tuition.
Bishop, B. N. St. Mary's College, Woolhampton.
Chetwind, H. Tollington Park College, N.
Mitchell, W. B. University School, Hastings.
Uthoff, J. A. St. George's College, Weybridge.
Ingram, P. T. mu. University School, Stroud Green.
Moore, E. Wellington College, Salop.
Gillham, J. C. E. Private tuition.
Nash, E. bk. St. John's College, Green Lanes, N.
Howlett, F. M. d. Edward VI. Gram. S., Wymondham.
Jezzi, L. P. d. Quernmore House S., Bromley, Kent.
Walker, T. F. Oxford County School, Thame.
Still, S. H. d. Emwell House School, Warminster.
Biddle, F. H. ch. Private tuition.
Baker, A. G. bk. Truro College.
Burnage, F. Newport Grammar S., Isle of Wight
Hardcastle, C. bk. St. John's College, Green Lanes, N.
Scholes, E. M. Woodhouse Grove S., Apperley Bdge.
Bagshaw, F. Collegiate School, Belper.
Bryant, V. S. Truro College.
Micklethwait, R. Grammar School, Belper.
Synnington, H. L. Nonconform. Gram. S., Bp. Stortford
Cooker, C. H. Clarendon School, Surbiton Hill.
Hopkins, G. St. John's College, Green Lanes, N.
Owens, L. A. St. Asaph Grammar School.
Sadler, J. J. St. Mary's College, Woolhampton.
Scribner, B. St. Joseph's College, Dumfries.
Bevington, R. Tollington Park College, N.
Fisher, H. N. E. Dr. Morgan's School, Bridgwater.
Bryan, J. L. Kurnella School, Bournemouth.
Cunningham, J. F. Ratcliffe College, Leicester.
Whitehead, J. University School, Southport.
Lascrain, J. A. sp. St. James' School, Slough.
Shaw, S. T. Almondbury Grammar School.
Bullen, C. H. Woodhouse Grove S., Apperley Bdge.
Plumbridge, H. J. Bethany House S., Goudhurst.
Corbett, E. W. Wellington College, Salop.
Rive, L. St. James' Collegiate S., Jersey.
Jenkinson, E. A. The Grammar School, Chesterfield.
Mansford, L. K. University School, Hastings.
Minnion, E. H. Stationers' Company's School, E.C.
Black, J. S. d. St. John's College, Green Lanes, N.
Chandler, P. E. East Cornwall College, Liskeard.
David, H. J. f. St. George's College, Weybridge.
Shettle, P. S. Grammar School, Eye.
Draper, J. F. L. Hastings Grammar School.
Smith, N. D. a. St. John's College, Brixton.
Kite, C. W. Kurnella School, Bournemouth.
Drinkwater, G. W. Wellington College, Salop.
Barton, E. A. Woodhouse Grove S., Apperley Bdge.
Densham, R. H. Mount Radford School, Exeter.
Munn, N. E. Stationers' Company's School, E.C.
Booth, W. Rhodes House School, Manchester.
Windsor, P. St. John's College, Green Lanes, N.
Partridge, V. S. Norton College, Luton.
Bennett, R. A. University School, Hastings.
Elliott, A. M. Hastings Grammar School.
King, R. H. Rhodes House School, Manchester.
Lister-Kaye, A. f. St. John's College, Brixton.
Malan, F. Kelly College, Tavistock.
Mauder, H. N. d. Halesowen Grammar School.

SECOND CLASS.—1ST DIVISION.

Watson, E. F. University School, Hastings.
a. al. el. ch. nat.

Hutton, S. K. Fulneck School, near Leeds.
Abell, T. B. d. Devon County S., West Buckland.
Cooper, A. H. Leeds Modern School.
Kay, A. J. bk. ms. d. Collett House S., Bournemouth.
Stewart, B. H. University School, Hastings.
el. ch. nat.
Bee, T. J. el. d. University School, Hastings.
Goodyear, P. d. Plymouth Corporation Grammar S.
Ledger, G. J. d. Wellington College, Salop.
Newhouse, E. The College, Gildersome.
Rigby, H. bk. ch. Sandbach School, Cheshire.
Potter, A. H. ms. Halstead Grammar School.
Lawry, J. L. d. Truro College.
Owen, C. W. ms. d. Wellington College, Salop.
Furniss, J. M. bk. Birkenhead Institute.
Dobson, E. d. Wellington College, Salop.
Reaney, M. F. Quernmore House S., Bromley, Kent.
Stokes, F. E. Mount Radford School, Exeter.
Christfield, F. C. d. Borden School, Sittingbourne.
Gover, J. M. d. Singleton House, Newcastle-on-Tyne.
Hall, L. B. d. Eagle House, St. Leonards-on-Sea.
Kershaw, A. G. a. Grove House School, Highgate.
Morris, E. R. Wellington College, Salop.
Pearce, R. E. M. Truro College.
Broadbent, T. E. Almondbury Grammar School.
Cole, H. F. St. John's College, Green Lanes.
Hutton, F. B. gr. Ratcliffe College, Leicester.
Besley, C. A. bk. Heavitree Collegiate S., Exeter.
Vivian, J. H. Tannton's Trade S., Southampton.
Hancock, T. R. bk. Hall Grammar School, Fishguard.
Rice, C. F. Truro College.
Johnson, P. H. Tollington Park College, N.
Nicoll, C. B. University School, Southport.
Wiglesworth, H. H. D. Wellington College, Salop.
Cocks, W. R. Dunheved College, Launceston.
Marshall, J. C. d. Dean Close Memorial S., Cheltenham
Mundle, H. A. d. Newcastle-on-Tyne Modern School.
Tinker, E. d. Almondbury Grammar School.
Taylor, A. G. ch. Taunton's Trade S., Southampton.
Merson, F. Devon County S., West Buckland.
Witham, J. Newport Grammar S., Isle of Wight
Maddock, E. C. G. Private tuition.
Wiles, C. E. The Yorkshire Society's School, S.E.
Hearle, J. Truro College.
Love, H. A. Tollington Park College, N.
Ayling, C. Tollington Park College, N.
Rollinson, H. C. d. Chesterfield Grammar School.
Charnley, C. St. Bede's College, Manchester.
Easton, M. de L. d. Borden School, Sittingbourne.
Pring, J. S. Wellington College, Salop.
Quartanos, C. Vickery's, Southsea.
Wood, D. A. Borden School, Sittingbourne.
Hayward, T. B. Grammar School, Belper.
Stewart, A. G. d. University School, Hastings.
Bullock, J. P. Wellington College, Salop.
Lister, J. C. Wellington College, Salop.
Price, J. H. Narberth Grammar S., Pembroke.
Potter, G. R. The Yorkshire Society's School, S.E.
Smith, H. E. Halstead Grammar School.
Dowdy, D. Tollington Park College, N.
Oliver, C. H. Dean Close Memorial S., Cheltenham
Horsford, C. A. B. Private tuition.
Little, A. D. Truro College.
Palmer, H. T. d. Borden School, Sittingbourne.
Jones, W. Wellington College, Salop.
Stuttard, C. A. Forest Hill Middle Class School.
Tarbet, P. R. Repton, Burton-on-Trent.
Thomas, W. H. St. Mary's College, Woolhampton.
Hallett, W. S. St. Mary's College, Woolhampton.
Hatch, L. J. Avenue House School, Sevenoaks.
Tett, H. G. Borden School, Sittingbourne.
Bygott, J. St. James' Choir School, Grimsby.
Casserley, J. B. Tollington Park College, N.
Nathan, M. P. City of London School, E.C.
Petty, J. B. d. Private tuition.
Kirby, A. J. Oxford County School, Thame.
Martyn, W. Dunheved College, Launceston.
Priest, T. Almondbury Grammar School.
Sander, L. L. d. University School, Hastings.
Stevenson, G. T. d. Brunswick House School, Windsor.
Wilson, E. A. St. Bede's College, Manchester.
Grierson, D. J. St. John's College, Green Lanes, N.
Bullock, J. E. Wellington College, Salop.
Ford, G. T. St. Mary's College, Woolhampton.
Harvey, A. Newport Grammar S., Isle of Wight.
Jennings, W. Private tuition.
Rolfe, G. S. B. New Hall Coll., Sutton Coldfield.
Devis, P. A. Woodhouse Grove S., Apperley Bdge
Leigh, J. A. ch. University School, Southport.
McNaught, W. D. Grafton House School, Manchester.
Oliver, C. S. d. Fowey Grammar School.
Owen, L. H. d. Summerleaze Coll. S., East Harptree.
Rice, A. R. Truro College.
Rosas, T. L. Ratcliffe College, Leicester.
Sindall, H. d. Horsmonden School.
Blackmore, H. Lewisham House S., Weston-s.-Mare
Blyth, J. H. Commercial School, Wymondham.
Brennan, G. H. Truro College.
Cunningham, A. J. Ratcliffe College, Leicester.

BOYS, SECOND CLASS—Continued.

Messeder, W. E. St. Mary's College, Woolhampton.
Sewell, R. C. d. University School, Hastings.
Fox, J. C. Tollington Park College, N.
Oldfield, F. W. Grammar School, Wirksworth.
Price, A. H. d. Montrose College, Brixton Hill.
Walsh, C. St. Mary's College, Woolhampton.
Weston, F. Hastings Grammar School.
Allen, A. W. Private tuition.
Davy, C. R. d. Maidenhead College.
Durrant, C. H. Private tuition.
Elworthy, H. H. Southwood House, Cheltenham.
Henshaw, W. A. d. Private tuition.
Hornman, C. G. f. St. James' Collegiate S., Jersey.
Overy, F. M. University School, Hastings.
Phillips, W. H. Hayle Grammar School, Cornwall.
Powell, C. H. Hastings Grammar School.
Price, J. C. 43 Maryon Road, Charlton, S.E.
Savage, F. Archbishop Holgate's S., York.
Smith, C. E. Nonconform. Gram. S., Bp. Stortford
Bland, C. C. d. The High School, Blackpool.
Colman, A. T. Rugby House School, Brighton.
Galloway, J. Grafton House School, Manchester.
Joscelyne, A. B. University School, Hastings.
Mann, H. T. Private tuition.
McGrath, J. St. Bede's College, Manchester.
Newton, C. E. Montrose College, Brixton Hill.
Thomas, R. D. Hastings Grammar School.
Watkin, J. W. St. Mary's College, Woolhampton.
Affleck, R. C. Wellington College, Salop.
Griffin, E. G. Sandwich School.
Holden, G. d. Chesterfield Grammar School.
Smith, E. G. Fowey Grammar School.
Heath, W. H. d. Sandwich School.
Hicks, J. T. Dunheved College, Launceston.
Hopper, W. F. Sandwich School.
Hutton, A. B. Fulneck School, Leeds.
Raby, C. Birkenhead Institute.
Willis, C. B. High School, Sutton, Surrey.
Wilson, W. S. North London High School, N.W.
Barningham, A. Nonconform. Gram. S., Bp. Stortford
Jones, W. B. Burgess Hill High School, Sussex.
Phillips, H. B. d. Wellington College, Salop.
Saggers, F. Sidecup College.
Bartolmé, G. Epsom College.
Hart, H. D. University School, Hastings.
Paramore, W. E. Merchant Taylors' School, E.C.
Edgelow, G. W. H. Private tuition.
Ravenshaw, J. Wellington College, Salop.
Ryan, T. F. Halstead Grammar School.
Slattery, T. P. St. Mary's College, Woolhampton.
Booth, A. E. d. Collegiate School, Belper.
Collins, L. H. Tollington Park College, N.
Cowell, J. H. Woodhouse Grove S., Apperley Bdge.
Curtis, W. T. Rye Grammar School.
Jackson, R. G. Grammar School, Belper.
Lamb, W. J. Bethany House School, Goudhurst.
Lyons, J. E. St. Mary's College, Woolhampton.
Patchett, H. J. A. St. Mary's College, Woolhampton.
Ravison, G. F. d. Deal College.
Swain, A. F. Grammar School, Marlborough.
Bennett, T. Tollington Park North, N.
Brown, A. H. Tollington Park College, N.
McMullon, H. G. d. Edward VI. Gram. S., Wymondham.
Mullens, H. Anglo-French High S., Hornsey.
Swinburne, H. Private tuition.
Tanner, G. University School, Southport.
Horton, H. N. d. Plymouth Corporation Grammar S.
Stamp, J. C. d. Bethany House School, Goudhurst.
Stowell, E. W. Nonconform. Gram. S., Bp. Stortford
Badcock, A. L. Rugby House School, Brighton.
Bassadoue, E. W. Ratcliffe College, Leicester.
Campbell, C. J. St. Mary's College, Woolhampton.
Grapes, G. Newport Grammar S., Isle of Wight.
Miller, W. H. The Philological School, Southsea.
Barber, A. Tollington Park College, N.
Barker, E. A. Chesterfield Grammar School.
Brown, C. M. Muttley Grammar School, Plymouth.
Day, P. J. Kurnella School, Bournemouth.
Hinde, F. W. Leeds Modern School.
Robinson, T. Nonconform. Gram. S., Bp. Stortford
Shettle, R. D. Grammar School, Eye.
Bretherton, F. H. Independent College, Taunton.
Cave, J. R. Royal Grammar S., High Wycombe.
Dunaway, C. H. Tollington Park College, N.
Edmunds, G. J. Chesterfield Grammar School.
Finlow, R. S. Sandbach School, Cheshire.
Hook, P. St. Joseph's High School, Cardiff.
Race, J. D. Woodhouse Grove S., Apperley Bdge.
Seton, C. M. Private tuition.
King, E. J. Kelly College, Tavistock.
Millidge, P. Newport Grammar S., Isle of Wight.
Monk, W. A. d. Yeovil Grammar School.
Ogier, W. De G. St. James' Collegiate School, Jersey.
Read, H. B. St. John's College, Green Lanes, N.
Shrubsole, E. Private tuition.
White, J. W. The Philological School, Southsea.
Andrews, H. Avenue House School, Sevenoaks.
Calloway, T. Newport Grammar S., Isle of Wight.
Duff, R. E. St. George's College, Weybridge.
Hampton, F. W. d. Wellington College, Salop.
Hollins, H. H. The Yorkshire Society's School, S.E.
Jones, E. Pannal Ash College, Harrogate.
Kerr, J. Chesterfield Grammar School.
Taylor, K. T. H. Wellington College, Salop.
Webster, H. G. d. Private tuition.
Wildash, G. F. Nonconform. Gram. S., Bp. Stortford
Wilkinson, M. H. Hastings Grammar School.

Burrows, F. H. Truro College.
Compton, L. S. 3 Chester Place, Mutley, Plymouth.
Mitchell, R. J. Whitelyons, Brentwood.
Miller, F. The Philological School, Southsea.
Newell, H. Lyttleton Gram. School, Malvern.
Parkins, W. J. d. Richmond House S., Handsworth.
Shaughnessy, J. St. Joseph's College, Dumfries.
Tracy, C. H. Maidenhead College.
Waterman, A. C. Ashford Grammar School.
Wilson, J. S. d. Leeds Modern School.
Anstey, S. Elmhurst S., Kingston-on-Thames.
Fenton, M. A. d. Maidenhead College.
Legge, A. R. Ashford Grammar School.
Lyne, A. S. Dunheved College, Launceston.
Waller, B. P. St. Catharine's School, Broxbourne
Bloomfield, E. C. University School, Hastings.
Burnham, E. J. Bethany House S., Goudhurst.
Hill, T. G. Private tuition.
Holcombe, G. d. Hillmartin Coll., Camden Rd., N.W.
Jacobs, M. Argyle House School, Sunderland.
Lake, R. Bible Christian College, Shebbear.
Mayo, C. W. Knowsley, Torquay.
VanHoogstraten H.A. Newton School, Rock Ferry.
Dangerfield, R. J. Balham School.
Edwards, W. F. Hastings Grammar School.
Newman-Nichols, R. J. North London Collegiate S., N.W.
Tate, A. C. d. Leeds Modern School.
Whitelaw, G. A. Tollington Park College, N.
Atkinson, G. Ashford Grammar School.
Dupont, O. C. mu. St. John's College, Green Lanes, N.
Ford, E. A. High School, Sutton, Surrey.
Hayward, A. J. d. Grammar School, Belper.
Jack, J. E. Grafton House School, Manchester.
Mackintosh, H. Chesterfield Grammar School.
Pincombe, W. E. Private tuition.
Rains, G. H. Private tuition.
Shettle, F. B. d. Grammar School, Eye.
Wilson, J. A. Sandford Acad., Newcastle-on-T.
Davies, D. J. Old College School, Carmarthen.
Farrar, W. W. Private tuition.
Harrington, H. D. Grammar School, Eye.
Lennon, C. J. German & French Coll., Wandsworth
Porter, W. T. University School, Southport.
Watson, G. H. Forest Hill Middle Class School.
Chambers, J. J. d. Park House School, Gravesend.
Higman, B. F. Grammar School, Belper.
Hunter, J. D. Kentish Town High School.
Jones, A. G. Princes Road High S., Liverpool.
Passmore, W. H. Private tuition.
Tappenden, A. C. Gunnersbury College.
Turner, A. H. Grammar School, Steyning.
Vasey, G. H. Highbury Park School, N.
Whitaker, R. H. R. Highbury Park School, N.
Clarke, E. B. d. St. John's Choir S., St. Leonards-on-S.
Geikie, H. S. Highbury Park School, N.
Good, J. P. Rossall School.
Hodges, R. W. Quernmore House S., Bromley, Kent.
Jackson, W. C. Nonconform. Gram. S., Bp. Stortford
Johnston, G. L. University School, Hastings.
Leigh, J. H. St. Mary's College, Woolhampton.
Murray, S. S. Cardiff Middle Class School.
Rule, F. G. Stoke Preparatory S., Devonport.
Spear, H. L. Dunheved College, Launceston.
Urquhart, V. W. Warwick House School, Southsea.
Dean, F. H. Tollington Park College, N.
Dowding, A. G. St. Mary's College, Woolhampton.
Hart, J. H. Private tuition.
Pritchett, F. The Yorkshire Society's S., S.E.
Russell, A. d. Carter House School, Deal.
Shields, F. Newport Grammar S., Isle of Wight
Wallis, V. M. d. Hall Gate School, Doncaster.
Ashill, R. J. Dr. Morgan's School, Bridgwater.
Evans, A. D. nat. Narberth Grammar S., Pembroke.
Parsons, E. New Hall Coll., Sutton Coldfield.
Brown, S. J. Tollington Park College, N.
Haydon, W. G. Tollington Park College, N.
Illius, H. W. Private tuition.
Knowles, A. Fulneck School, Leeds.
Lawson, J. Woodhouse Grove S., Apperley Bdge.
McArthur, C. Taunton's Trade S., Southampton.
Von Bergen, C. W. Grammar School, Darlington.
Wood, T. H. Deal College.
Batkin, J. T. Grammar School, Wirksworth.
Bullock, C. H. d. Enwell House School, Warrminster.
Cooper, G. C. Nonconform. Gram. S., Bp. Stortford
Francis, B. J. Kurnella School, Bournemouth.
Hanworth, H. H. Edward VI. Gram. S., Wymondham.
Hughes, H. H. Witton Grammar S., Northwich.
Lodge, B. E. Woodhouse Grove S., Apperley Bdge.
Austin, A. W. Beechfield School, Malvern Link.
Butler, F. A. Selhurst Park College, S.E.
Coghlan, G. S. Warwick House School, Southsea.
Conchman, E. Ratcliffe College, Leicester.
Davies, E. d. Nonconform. Gram. S., Bp. Stortford
Davison, W. d. Wellington College, Salop.
Illius, J. W. d. Licensed Victuallers' School, S.E.
Jones, H. H. Private tuition.
Lewis, G. Tollington Park College, N.
Overy, D. J. Cardigan Grammar School.
Paris, P. A. University School, Hastings.
St. Bede's College, Manchester.
Cothay, H. S. Argyle House S., Sunderland.
Forsyth, A. J. Ratcliffe College, Leicester.
Humphreys, T. N. Grammar School, Aberystwith.
Hunt, F. E. Wellington College, Salop.
Lethbridge, J. M. Tollington Park College, N.
Lightfoot, J. H. Crediton Grammar School.
Smith, C. S. d. Whitchurch Grammar School.
Welsh, A. Herne House, Margate.

Atkinson, G. S. Woodhouse Grove S., Apperley Bdge.
Batten, H. W. Clyde House, Hereford.
Crozier, H. D. Birkenhead School.
Harding, S. J. Forest Hill, Middle Class School.
Howell, T. B. Nonconform. Gram. S., Bp. Stortford
Lewis, S. M. Old College School, Carmarthen.
McConaghey, J. C. United Services Coll., Westward Ho!
Pritchett, G. W. M. Exmouth House, Stoke, Devonport.
Seton, W. W. Private tuition.
Slaughter, F. Grammar School, Steyning.
Stather, W. B. Archbishop Holgate's S., York.
Coleman, W. R. Commercial School, Wymondham.
Davies, D. H. Whitchurch Grammar School.
Ferguson, J. C. Newcastle-on-Tyne Modern School.
Hamond, P. Quernmore House S., Bromley, Kent.
Jepson, A. B. The College, Leamington.
Plunkett, A. V. St. Asaph Grammar School.
Saward, A. H. M. Private tuition.
Depland, P. f. St. Joseph's College, Dumfries.
Forrest, E. Greenheys Coll. S., Manchester.
Gwynn, H. V. Private tuition.
Hall, J. L. Ashford Grammar School.
Morfee, E. Bethany House School, Goudhurst.
Poole, P. E. Halstead Grammar School.
Brewer, W. d. Royal Grammar School, Whalley.
Coulthard, H. B. Ashford Grammar School.
Hanworth, G. H. Edward VI. Gram. S., Wymondham.
Hicks, P. Highbury Park School, N.
Loughran, W. J. St. Joseph's College, Dumfries.
O'Brien, J. Beaconfield College, Plymouth.
Owers, C. O. Nonconform. Gram. S., Bp. Stortford
Smith, B. C. Emwell House School, Warrminster.
Stewart, F. A. d. University School, Hastings.
Baker, E. E. Heavitree Collegiate S., Exeter.
Betts, F. Bussage House, Stroud.
Gray, G. Newport Grammar S., Isle of Wight.
Heiser, A. L. Tollington Park College, N.
Leese, E. B. Ashford Grammar School.
Lumsden, C. S. Private tuition.
Poad, J. Truro College.
Rattenbury, O. B. Wesley College, Sheffield.
Sheath, A. G. Bethany House School, Goudhurst.
Wilders, H. J. St. Mary's College, Woolhampton.
Ford, J. A. New Hall Coll., Sutton Coldfield.
Galloway, R. Grafton House School, Manchester.
Highton, D. C. Taunton House School, Brighton.
Horton, C. T. Grammar School, Aberystwith.
James, C. L. Birkenhead Institute.
Kirby, H. Highbury Park School, N.
McMenemy, J. St. Joseph's College, Dumfries.
Rayner, F. L. Tollington Park College, N.
Riddall, S. G. High School, Sutton, Surrey.
Schultz, A. H. Cavendish House S., Hammersmith.
Seed, F. G. St. Mary's College, Woolhampton.
Aumonier, F. S. St. Ethelbert's School, Hampstead.
Brown, J. A. Licensed Victuallers' School, S.E.
Cairns, P. St. Joseph's College, Dumfries.
Comyn, D. Beaconfield College, Plymouth.
Phillips, O. H. Heavitree Collegiate S., Exeter.
Stephens, E. J. Truro College.
Clark, W. B. d. The Yorkshire Society's School, S.E.
Cornelius, F. T. Hastings Grammar School.
Engelhardt, W. L. Quernmore Ho. S., Bromley, Kent.
Field, L. Rock Hill Academy, Chulmleigh.
Leigh, E. Talbot House School, Old Trafford.
Martin, W. H. St. Mary's College, Woolhampton.
Welford, T. International College, Brixton.

SECOND CLASS.—2ND DIVISION.

Ackland, F. C. Caversham House School, Reading.
Clemens, W. T. Fulneck School, Leeds.
Davies, D. County S., Pencader, Carmarthen.
Frost, J. R. Private tuition.
Hinchliff, E. W. Stationers' Company's School, E.C.
Loveland, J. bk. Avenue House School, Sevenoaks.
Mortlock, J. M. Banham Grammar S., Attleborough.
O'Hanlon, J. St. Joseph's College, Dumfries.
Oliver, W. F. d. Fowey Grammar School.
Purse, A. H. Argyle House School, Sunderland.
Thompson, G. C. Epsom College.
Wright, C. B. Maidstone Grammar School.
Bradley, A. Hatton House S., Newark-on-Trent.
Goord, L. F. Borden School, Sittingbourne.
Holinger, N. d. Private tuition.
Judd, A. Elmhurst S., Kingston-on-Thames.
Lobb, H. P. Plymouth College.
Porter, E. H. St. Mary's College, Woolhampton.
Slater, H. K. d. Nonconform. Gram. S., Bp. Stortford
Alderton, E. Streatham Grammar School.
Beley, S. Herne House, Margate.
Dayton, S. P. d. Richmond Hill School, S.W.
Frank, G. M. Mount Radford School, Exeter.
Hawkins, H. Bible Christian College, Shebbear.
Holl, H. A. Banham Grammar S., Attleboro'.
Murray, A. W. Epsom College.
O'Hanlon, P. St. Joseph's College, Dumfries.
Phillips, R. B. Wellington College, Salop.
Rees, J. St. Joseph's High School, Cardiff.
Seagrave, B. R. Sidecup College.
Smith, S. Grammar School, Wirksworth.
Sprawson, C. Grammar School, Marlborough.
Thorpe, A. Almondbury Grammar School.
Walmsley, L. St. Joseph's College, Dumfries.
Carpenter, W. H. The Hollies, Wood Green, N.
Ehrmann, E. G. Ramsgate School.
Ford, E. P. Tollington Park College, N.
Hogan, C. 38 Tavistock Place, Plymouth.
Jullif, A. E. East Cornwall College, Liskeard.
Lindsay, N. W. Kentish Town High School.

BOYS, SECOND CLASS—Continued.

- Turner, H. St. Mary's College, Woolhampton.
White, T. B. d. Southampton Boys' College.
- Chronnell, C. St. Bede's College, Manchester.
Danino, F. Private tuition.
Drabble, E. d. Chesterfield Grammar School.
Jonas, L. St. Catharine's S., Broxbourne.
Lloyd, J. H. Independent College, Taunton.
- Ayris, H. W. Ashford Grammar School.
Burt, T. G. Taunton's Trade S., Southampton.
Davey, F. O. St. Mary's College, Woolhampton.
Elliott, H. Fulneck School, Leeds.
Gibbons, J. H. Rhodes House School, Manchester.
Lee, N. d. University School, Southport.
Locke, R. Borden School, Sittingbourne.
Osborne, F. C. Truro College.
Wilkinson, S. C. Leeds Modern School.
- Black, W. S. St. John's College, Green Lanes, N.
Braithwaite, F. S. Woodhouse Grove S., Apperley Bdge.
Brook-Greaves, R. d. 331 Crookesmore Road, Sheffield.
Clayton, F. A. Warwick House School, Southsea.
Connolly, T. A. St. Mary's College, Woolhampton.
Dyer, J. L. Vickery's, Southsea.
Jones, G. S. Llandudno College.
Lockwood, P. Longsight Grammar S., Manchester.
Morford, A. R. Maidenhead College.
Rhodes, H. St. John's College, Green Lanes, N.
Sherratt, B. Central Board School, Manchester.
- Alarcon, J. St. Joseph's College, Dumfries.
Goodman, A. L. Nonconform. Gram. S., Bp. Stortford.
Hope, B. W. Banham Grammar S., Attleborough.
Leonard, W. H. Hull and East Riding College.
Pearse, H. Devon County S., West Buckland.
Utting, H. E. Queen Mary's School, Walsall.
- Clinton, T. Stationers' Company's School, E.C.
Cooper, H. Tollington Park College, N.
Fisher, H. W. Plymouth College.
Halsey, H. Independent College, Taunton.
Lino, J. St. James' School, Slough.
Moran, J. P. University School, Hastings.
Stowell, S. H. Nonconform. Gram. S., Bp. Stortford.
Turner, S. B. Wesley College, Sheffield.
- Collins, H. S. Homes for Orphans, Swanley.
Crowe, A. S. Nonconform. Gram. S., Bp. Stortford.
Davies, W. H. Woodhouse Grove S., Apperley Bdge.
Dix, A. G. King Edward VI. School, Norwich.
Lewis, W. R. Chandos School, Hereford.
Ough, C. Devon County S., West Buckland.
Reed, E. d. University School, Hastings.
- Boughton, R. A. Tollington Park College, N.
Brewer, L. A. Truro College.
Edwards, S. F. Tollington Park College, N.
Hare, J. P. St. Dunstan's College, Catford.
Hingley, F. Halesowen Grammar School.
Hughes, G. S. Maidstone Grammar School.
Ive, W. S. Ashford Grammar School.
Kendon, D. G. Bethany House School, Goudhurst.
Lamb, A. S. Bethany House School, Goudhurst.
Mennim, F. Newcastle-on-Tyne Modern School.
Peters, G. St. Aloysius' College, Highgate.
Phillips, W. L. Old College School, Carmarthen.
Ruffle, B. G. Romford Grammar School.
Sharpe, W. H. M. Kurnella School, Bournemouth.
- Calvert, J. K. Woodhouse Grove S., Apperley Bdge.
Gurd, I. W. mu. St. Mary's College, Woolhampton.
Hey, S. D. Private tuition.
Pooley, J. P. F. Knutsford Grammar School.
Ridley, G. Dunheved College, Launceston.
Strickland, N. Montpelier School, Paignton.
Vickers, T. E. Collegiate School, Belper.
- Casey, J. St. Joseph's College, Dumfries.
Farnsworth, W. L. Chesterfield Grammar School.
Powell, J. N. H. Tanyrallt School, Pontardawe.
Prickett, G. F. Private tuition.
Roberts, T. H. Epsom College.
Smith, A. J. J. Coopers' Company's S., Bow Road, E.
- Campkin, H. T. Southampton Boys' Coll. & High S.
Harris, W. T. King Edward VI. School, Norwich.
Mitchell, F. M. Coopers' Company's S., Bow Road, E.
Morris, W. Maidenhead College.
Turner, C. J. d. Wesley College, Sheffield.
Watts, W. St. Bede's College, Manchester.
Willis, S. H. Borden School, Sittingbourne.
- Allward, M. J. Tollington Park College, N.
Applin, S. V. f. Caversham House School, Reading.
Beck, L. P. Denbigh Grammar School.
Bennett, C. H. The Yorkshire Society's S., S.E.
Lowe, G. S. Borden School, Sittingbourne.
Raven, T. d. New Hall Coll., Sutton Coldfield.
Stuckey, E. W. Nonconform. Gram. S., Bp. Stortford.
- Blewitt, C. P. Dudley Middle Class School.
Featherstone, F. R. Private tuition.
Hodson, W. H. Hastings Grammar School.
Kittow, H. Dunheved College, Launceston.
Lca, E. W. Deal College.
McDermott, G. Argyll House School, Balham.
McDonald, M. J. St. Mary's College, Woolhampton.
Mulholland, A. E. North London High School, N.W.
Naylor, A. H. Tollington Park College, N.
Owen, W. Walton School, Llangollen.
Rosser, A. Tollington Park College, N.
Watson, P. J. Avenue House School, Sevenoaks.
- Busby, A. F. Oxford County School, Thame.
Copp, C. R. Ecclefechan, Wimbeldon.
Davis, W. Bethany House School, Goudhurst.
Duke, E. Grammar School, Steyning.
Ellis, T. B. R. Private tuition.
Fletcher, R. H. St. George's College, Weybridge.
Hlsley, F. P. Ealing Grammar School.
- Malby, T. University School, Stroud Green.
Nelson, G. H. Oakfield School, Crouch End.
Phillips, E. University School, Hastings.
Solomon, W. H. Truro College.
Tough, W. T. L. Selhurst Park College, S.E.
Wilson, D. Argyll House School, Balham.
- Andrews, J. A. Private tuition.
Grose, H. P. Avenue House School, Sevenoaks.
Higgins, C. H. St. John's College, Green Lanes, N.
Malby, H. J. St. John's College, Green Lanes, N.
Middleton, W. Sandbach School, Cheshire.
Norris-Elye, C. J. E. Rossall School.
Parsons, F. O. Avenue House School, Sevenoaks.
Pearson, W. H. Llandudno College.
Pinchin, C. D. Sutton Park School, Surrey.
Piper, J. H. Tollington Park College, N.
Seaborne, L. D. High School, Barnsley.
Wise, C. L. Belmont House School, Lec, S.E.
- Bartholomew, M. Richmond House S., Handsworth.
Challis, J. E. College House School, Braintree.
Dewick, G. Hull and East Riding College.
Dixon, H. F. Banham Grammar S., Attleborough.
Findeisen, A. G. Sidcup College.
Gentry, P. M. Vermont College, Clapton.
Henschel, L. O. Hillmartin Coll., Camden Rd., N.W.
Marlow, L. St. George's College, Brampton.
- Amys, H. S. Woodhouse Grove S., Apperley Bdge.
Cooper, C. Polytechnic Intermediate S., W.
Fawcett, P. A. University School, Southport.
Godwin, A. F. Chandos School, Hereford.
Goldsmith, J. K. Private tuition.
Grimsdall, H. D. Islington High School, N.
Jones, J. R. St. Asaph Grammar School.
Leates, J. Stationers' Company's School, E.C.
Macintosh, A. St. Joseph's College, Dumfries.
Murphy, J. M. Irvine House, Derby.
Smith, E. E. Licensed Victuallers' School, S.E.
Sweeting, H. W. St. Catharine's S., Broxbourne.
Todd, M. S. Hastings Grammar School.
Traylor, W. D. The Collegiate S., Pembroke Dock.
Windus, G. Grammar School, Ormskirk.
- Alltree, G. W. Preliminary Medical College, E.C.
Beeman, R. A. Vermont College, Clapton.
Gravell, A. Newcastle-on-Tyne Modern School.
Guttridge, C. W. Tollington Park College, N.
Horsburgh, C. B. Hermitage School, Bath.
Hughes, R. O. Grammar and Coll. S., Carnarvon.
Macintosh, A. M. Private tuition.
Robinson, W. H. d. Northgate School, Winchester.
- Bookey, J. W. Epsom College.
Bradley, J. B. Dudley Grammar School.
Clark, J. W. H. Plymouth Corporation Grammar S.
Cross, H. T. Christ's Hospital, E.C.
Gray, C. O. Coopers' Company's S., Bow Road, E.
Howard, A. Boys' Collegiate S., Aldershot.
Johnstone, P. St. Joseph's College, Dumfries.
Peatfield, W. Brighton Modern School.
Tod, G. H. Oakfield School, Crouch End.
- Adamson, O. Burgess Hill High School, Sussex.
Fleming, E. J. Thorne Hill, Blackheath, S.E.
Fox, E. N. Private tuition.
Fuller, E. Rye Grammar School.
Henderson, P. Grammar School, Ormskirk.
Jessop, C. F. Private tuition.
Newton, J. H. Montrose College, Brixton Hill.
Ollivier, D. M. Banister Court S., Southampton.
Parsons, J. C. New Hall Coll., Sutton Coldfield.
Reid, S. St. John's College, Green Lanes, N.
Roe, A. P. H. Ealing Grammar School.
Wear, S. N. Sidcup College.
- Blakemore S. A. Wellington College, Salop.
Collings, T. Tannton House School, Brighton.
Eccles, F. St. Joseph's College, Dumfries.
Hardwick, F. T. Horsmonden School.
Jones, W. S. Tivy Vale Grammar S., Lampeter.
King, E. R. Haringey Park S., Crouch End.
Lisle, E. O. Devon County S., West Buckland.
Randle, G. C. Hastings Grammar School.
Sutherland, A. St. Joseph's High School, Cardiff.
Thorn, F. C. Coopers' Company's S., Bow Road, E.
- Brewer, F. I. Lewisham House S., Weston-s-Mare.
Hesketh, J. F. Academy of St. Paulinus, Catterick.
Lowrance, J. P. High School, Barnsley.
Wingfield, T. E. The Abbey School, Penzance.
- Canney, R. E. B. Sutton Park School, Surrey.
Hermann, B. Grammar School, Aberystwith.
Higgins, G. F. Wirral College, Rock Ferry.
Jones, C. Talbot House School, Old Trafford.
Lee, P. J. S. Dr. Morgan's School, Bridgwater.
Morrison, C. Private tuition.
Poulton, G. Holmwood, Bexhill.
Russell, C. W. St. George's College, Weybridge.
Wilson, C. A. d. Boys' Collegiate S., Aldershot.
- Angus, E. P. Coopers' Company's S., Bow Road, E.
Bartlett, C. S. d. Wesley College, Sheffield.
Brown, A. H. St. John's College, Brixton.
Cooke, A. H. Watford Collegiate School.
Cramb, P. W. Truro College.
Hughes, W. H. 27 Water Street, Rhyl.
Humphrey, W. M. Argyll House School, Sunderland.
Leslie, B. S. Stationers' Company's School, E.C.
Strickland, W. M. Montpelier School, Paignton.
- Coghan, E. H. Ratcliffe College, Leicester.
Hawes, A. E. Hastings Grammar School.
Parkinson, H. R. Private tuition.
Rooth, J. H. Chesterfield Grammar School.
Shields, J. St. Joseph's College, Dumfries.
Whitlock, C. A. Halstead Grammar School.
Willan, U. Brixton Grammar School.
- Bosustow, T. C. Selhurst Park College, S.E.
- Craig, W. O. Bethany House School, Goudhurst.
Eve, P. J. C. High School, Sutton, Surrey.
Iles, A. E. Campbell House School, Bristol.
Lister, W. Churwell College, Leeds.
Margrie, T. W. Exmouth College.
Russell, H. H. St. George's College, Weybridge.
Wood, W. S. Borden School, Sittingbourne.
- Henderson, D. University School, Hastings.
Humby, D. M. Tollington Park College, N.
Liddle, R. M. Private tuition.
Littler, R. B. Hatton House S., Newark-on-Trent.
Ray, E. P. High School, Smethwick.
Robinson, J. B. d. Chesterfield Grammar School.
Slater, G. D. Private tuition.
Smith, W. C. B. Woolston College, Southampton.
Taylor, P. C. Fulneck School, Leeds.

SECOND CLASS—3RD DIVISION.

- Harrison, W. R. Private tuition.
Spearing, R. H. Elmhurst School, Kingston-on-T.
Statham, E. E. Private tuition.
- Bunting, A. H. Private tuition.
Haydou, W. C. Private tuition.
Hinds, H. H. Romford Grammar School.
Hoban, T. F. X. Private tuition.
Pullan, W. S. Pannal Ash College, Harrogate.
Young, F. E. Argyle House School, Sunderland.
- Bessell, S. J. Campbell House School, Bristol.
Brown, E. P. Fowey Grammar School.
Jefferiss, F. B. Private tuition.
Longley, R. R. High School, Barnsley.
Mathieu, F. C. St. George's College, Weybridge.
Nye, C. Horsmonden School.
Shrimpton, W. E. Devon County S., West Buckland.
- Curtice, R. Lytleton Grammar S., Malvern.
Forbes, C. D. E. Private tuition.
Holland, W. Rochdale Grammar School.
Jefferiss, L. M. Private tuition.
Thomson, G. W. Hillmartin Coll., Camden Rd., N.W.
Wheatley, F. Argyll House School, Balham.
Whitmore, C. F. Sidcup College.
- Bastian, J. Private tuition.
Briggs, W. A. Woodhouse Grove S., Apperley Bdge.
Driscoll, M. Beaconfield College, Plymouth.
Easton, E. S. Sutton Park School, Surrey.
Edwards, B. L. Nonconform. Gram. S., Bp. Stortford.
Fitzgerald, A. St. Patrick's Middle School, W.C.
Gallagher, C. St. Bede's College, Manchester.
Gristwood, F. J. Nonconform. Gram. S., Bp. Stortford.
Nicolson, T. I. Horsmonden School.
- Ray, J. Twyford N. School, Winchester.
Smith, H. W. Highbury Park School, N.
Williams, J. L. Grammar School, Aberystwith.
Goodman, H. J. 18 Alhambra Road, Southsea.
Johnstone, L. St. Joseph's College, Dumfries.
Jones, F. J. F. Oswestry Grammar School.
Jones, J. I. P. Private tuition.
Kent, R. Bethany House School, Goudhurst.
Morris, J. The Academy, Llandilo.
Ollis, W. R. Summerleaze Coll. S., East Harptree.
Orton, H. F. T. Private tuition.
Richardson, C. H. Clare House, Hull.
- Cobb, E. Talbot House School, Old Trafford.
Dalal, Now-Rose B. University Inst., Euston Rd., N.W.
Davie, W. G. Coopers' Company's S., Bow Road, E.
Jones, J. Old College School, Carmarthen.
Passmore, J. R. J. Private tuition.
Steeple, A. V. Newport Grammar S., Isle of Wight.
Whitaker, J. H. St. George's College, Weybridge.
- Armes, R. L. Nonconform. Gram. S., Bp. Stortford.
Bailey, H. Newport Grammar S., Isle of Wight.
Holzapfel, A. G. Thornton Heath School.
Landells, W. A. Friern Barnet High School.
Mitchell, A. Private tuition.
Samuel, J. T. Swansea College.
Windsor, P. C. Kelly College, Tavistock.
- Evans, T. W. Cardigan Grammar School.
Jones, A. H. Grammar & Collegiate S., Carnarvon.
McMenemy, W. St. Joseph's College, Dumfries.
Mitchell, T. C. The High School, Thirsk.
Parkin, C. S. Wesley College, Sheffield.
Stillwell, W. D. Holmwood, Bexhill.
- Bickley, J. Oswestry Grammar School.
Davies, D. L. Old College School, Carmarthen.
Davies, J. Narberth Grammar S., Pembroke.
Davies, J. L. Narberth Grammar S., Pembroke.
Hedley, R. Yarm Grammar School.
Hopkins, H. H. Tanyrallt School, Pontardawe.
Lindsey, A. Paradise House S., Stoke Newington.
Whitehead, E. M. Baythorn House School, Acton.
Williams, J. FitzL. Narberth Grammar S., Pembroke.
- Potter, E. C. Maidstone Grammar School.
Symonds, H. J. Vickery's, Southsea.
Warburton, E. Longsight Grammar S., Manchester.
- Butterworth, J. University School, Southport.
Dewey, E. W. St. John's College, Green Lanes, N.
Flood, M. St. Joseph's College, Dumfries.
Gray, A. A. Coopers' Company's S., Bow Road, E.
Lewis, A. Newport Grammar S., Isle of Wight.
O'Keefe, T. St. George's College, Brampton.
Peet, J. F. Woodhouse Grove S., Apperley Bdge.
Stone, G. W. Rossall School.
- Davis, L. F. Great Ealing School, W.
Elder, W. H. Quernmore Ho. S., Bromley, Kent.
Hansford, E. W. Trafalgar House S., Winchester.
Hewett, D. Grammar School, Ormskirk.
Hill, T. F. Private tuition.
Nelson, D. Argyll House School, Sunderland.
Roberts, F. H. Private tuition.
Timney, P. J. St. Joseph's College, Dumfries.

BOYS, SECOND CLASS—Continued.

Curran, T. St. Aloysius' College, Highgate.
Hayward, W. H. B. Private tuition.
Heselwood, W. E. The Yorkshire Society's School, S.E.
Kerwick, F. W. Sandown College, Isle of Wight.
Schooling, A. J. University School, Stroud Green.
Clery, J. St. Aloysius' College, Highgate.
Gambrell, J. W. Deal College.
Walker, F. G. Private tuition.
Parsons, H. E. S. Selhurst Park College, S.E.
Allen, R. University School, Hastings.
Bartlett, E. J. R. Private tuition.
Blair, W. G. Clarendon House School, Norwich.
Grote, R. G. E. Private tuition.
Holland, W. R. M. Devon County S., West Buckland.
Roche, F. Whitechurch Grammar School.
Cook, H. Newport Grammar S., Isle of Wight.
Gauld, R. Islington High School, N.
Swallow, F. B. Holmwood, Bexhill.
Thomson, F. The Hollies, Wood Green.
Andrew, C. W. Swindon High School.
Cocks, J. F. St. Catharine's School, Broxbourne.
Laurence, H. E. The Douglas School, Cheltenham.
Mayes, H. St. John's Choir S., St. Leonards-on-S.
Middleton, P. E. Bradford Grammar School.
Murphy, W. H. Fulneck School, Leeds.
Parsons, C. G. J. Balham School.
Scurlock, T. Old College School, Carmarthen.
Steaveuson, C. S. Turners' Gram. S., Coatham, Redcar.
Wright, L. Bethany House School, Goudhurst.
Bolst, C. C. Stationers' Company's School, E.C.
Browne, P. St. Joseph's College, Dumfries.
Coles, J. H. Maidstone Grammar School.
Dolan, P. B. St. James School, Slough.
José, W. G. Montpelier School, Paignton.
Borlase, G. W. 7 The Vineyard, Richmond, Surrey.
Cowie, C. Rock Hill Academy, Chulmleigh.
Harrowell, F. W. Leeds Modern School.
Knox, D. E. P. Private tuition.
Marlow, E. St. George's College, Bampton.
Wakefield, W. Private tuition.
Evans, J. Old College School, Carmarthen.
Samuel, D. Old College School, Carmarthen.
Brownless, J. W. Private tuition.
Pelham, W. J. Grammar School, Steyning.
Evans, J. W. St. Asaph Grammar School.
Harvey, F. P. P. Cowley College, New Barnet.
Morris, R. C. The Salop School, Oswestry.
Puerto, J. German & French Coll., Wandsworth

THIRD CLASS.—1ST DIVISION.

Makepeace, E. D. d. Wellington College, Salop.
Yong, A. S. ger. d. Haringey Park School, Crouch End.
Elie, F. f. ger. University School, Hastings.
Fox, C. J. J. Tollington Park College, N.
Kerley, W. J. d. Eton House School, Anerley Rd., S.E.
Walford, W. J. d. Banham Grammar S., Attleborough.
Hart, C. G. bk. d. St. Bede's College, Manchester.
Ricketts, L. Kentish Town High School.
Klug, F. A. East Cornwall College, Liskeard.
Daniel, G. Nonconform. Gram. S., Bp. Stortford.
Lawrence, H. bk. d. Dunheved College, Launceston.
Marshall, D. Fowey Grammar School.
Phipson, H. T. Mount Radford School, Exeter.
Hardman, G. C. d. Chesterfield Grammar School.
Symes, W. J. d. Tollington Park College, N.
Payne, J. A. d. Woodhouse Grove S., Apperly Bdge.
Wallis, W. A. d. Farnham Grammar School.
Hearne, A. R. J. d. Maidenhead College.
Cox, A. W. d. Maidenhead College.
Goord, H. S. d. Borden School, Sittingbourne.
Holford, A. Epsom College.
Burgess, P. C. d. Private tuition.
Medcalf, W. Grammar School, Ormskirk.
Champion, H. R. Devon County S., West Buckland.
Davies, A. Truro College.
Millard, F. N. Leeds Modern School.
Hardwick, C. W. High School, Sutton, Surrey.
Weston, H. Bethany House School, Goudhurst.
Farncombe, H. The College, Uckfield.
Osborn, C. E. d. St. Martin's School, York.
Peake, G. Commercial School, Wymondham.
Bongers, E. f. Quernmore House S., Bromley, Kent.
Turner, H. Royal Grammar School, Whalley.
Wilkinson, S. F. St. John's College, Green Lanes, N.
Dobson, W. G. Bethany House School, Goudhurst.
Edwards, F. P. Epsom College.
Francis, H. M. Epsom College.
Lines, W. J. d. Ealing Grammar School.
Churley, E. E. Ryde House, Ripley, Surrey.
Ransom, J. W. Commercial School, Wymondham.
Weston, H. E. St. George's College, Weybridge.
Crawford, H. Tollington Park College, N.
Creighton, H. R. d. Tollington Park College, N.
Head, P. S. Bethany House School, Goudhurst.
Harrison, E. d. University School, Southport.
Loader, G. O. Kurnella School, Bournemouth.
Lund, B. Wellington College, Salop.
Soper, C. E. Godwynehurst, Dover.
Warner, A. d. St. Catharine's School, Broxbourne.
Perry, T. O. S. East Finchley Grammar School.
Plumpton, J. Devon County S., West Buckland.
Bullett, W. J. d. Ealing Grammar School.
Hunt, F. W. St. John's College, Green Lanes, N.
Thomas, L. R. bk. Truro College.
Bartram, J. d. Grammar School, Wirksworth.
Bretherton, R. d. Royal Grammar School, Whalley.
Ham, J. N. Grammar School, Launceston.

Reynolds, T. W. University School, Hastings.
Smith, W. University School, Southport.
Venables, J. E. Gurnersbury College.
Bazeley, W. Dunheved College, Launceston.
Porkess, W. Private tuition.
Stanley, P. T. St. Augustin's Gram. S., Dewsbury.
Bakewell, E. J. Collegiate School, Belper.
Blenkinsop, F. St. Aloysius' College, Highgate.
Blades, B. W. Collegiate School, Belper.
Dawes, J. H. Grammar School, Wirksworth.
Lister, C. A. J. Wellington College, Salop.
Miller, H. B. Wesley College, Sheffield.
Stillwell, E. H. Holmwood, Bexhill.
Thompson, J. T. Leeds Modern School.
Powell, W. H. d. Grammar School, Eye.
Treneer, W. F. East Cornwall College, Liskeard.
Unwin, G. E. Halstead Grammar School.
Williams, H. S. St. Augustin's Gram. S., Dewsbury.
Amesbury, G. C. Epsom College.
Morgan, G. C. Quernmore House School, Bromley.
Turner, V. A. E. Southdown College, Eastbourne.
Blundell, H. Bethany House School, Goudhurst.
Bryan, H. W. Brighton House School, Bristol.
Howarth, H. d. Royal Grammar School, Whalley.
Jackson, J. H. d. University School, Southport.
Crook, T. University School, Southport.
Fawcett, N. Oxford County School, Thame.
Brewer, F. J. Friern Barnet High School.
Hodges, A. M. Bethany House School, Goudhurst.
Crossley, E. Collegiate School, Belper.
Ernouf, H. St. Thomas Roman Cath. S., Jersey.
Norminton, H. Leeds Modern School.
Phillips, W. D. d. New Hall Coll., Sutton Coldfield.
Rafferty, F. Beaconsfield College, Plymouth.
Reaney, G. R. H. d. Quernmore House S., Bromley, Kent.
Taylor, E. d. Licensed Victuallers' School, S.E.
Appleby, A. d. Summerleaze Coll. S., East Harptree.
Bissiker, H. T. Wellington College, Salop.
Blount, V. Whitechurch Grammar School.
Bryan, H. University School, Southport.
Burrows, W. G. Commercial School, Wymondham.
Smart, H. Ealing Grammar School.
Watson, G. H. d. Carter House School, Deal.
Whishaw, R. W. German & French Coll., Wandsworth.
Ardern, B. F. Devon County S., West Buckland.
Crossley, H. L. Collegiate School, Belper.
Davey, H. Independent College, Taunton.
Dobson, F. d. Wellington College, Salop.
Kirkby, J. A. S. Wesley College, Sheffield.
Veal, E. H. d. Taunton's Trade S., Southampton.
Yeomans, T. W. Chesterfield Grammar School.
Baker, V. R. d. Mutley Grammar School, Plymouth.
Cammack, J. H. Norton College, Luton.
Cowlshaw, W. H. Grammar School, Wirksworth.
Duke, C. E. d. Dover College.
Makins, J. T. d. Commercial School, Wymondham.
Riches, F. Commercial School, Wymondham.
Wood, P. J. Leeds Modern School.
Allsopp, R. Vickery's, Southsea.
Boley, A. E. Summerleaze Coll. S., East Harptree.
Bowles, E. T. F. Licensed Victuallers' School, S.E.
Fairburn, H. J. d. Tollington Park College, N.
Line, A. W. Elmhurst S., Kingston-on-Thames.
Shorter, R. G. Herne House, Margate.
Wiuterborne, H. bk. Collegiate School, Belper.
Crewe, E. Grammar School, Altrincham.
Davis, D. R. Bethany House School, Goudhurst.
Dyke, E. Collett House School, Bournemouth.
Grigg, J. J. W. Dunheved College, Launceston.
Locke, O. Borden School, Sittingbourne.
Mathews, S. Elmhurst S., Kingston-on-Thames.
Mawson, J. B. St. George's College, Weybridge.
Pascoe, T. H. St. John's Choir S., St. Leonards-on-S.
Allen, G. A. Grammar School, Wirksworth.
Beales, W. Commercial School, Wymondham.
Chapman, E. W. Bethany House S., Goudhurst.
Drewett, J. d. Ryde House, Ripley, Surrey.
Gatehouse, R. F. Middleton School, Bognor.
Haigh, W. N. North London High School, N.W.
Kelly, C. E. Quernmore House S., Bromley, Kent.
Livesey, H. University School, Southport.
Stapleton, J. G. Oakfield School, Crouch End.
Travis, T. W. Grammar School, Wirksworth.
Turk, W. J. Chesterfield Grammar School.
Cremolini, H. J. Ratcliffe College, Leicester.
D'Aquilar, J. B. S. Hermitage School, Bath.
Goodson, A. E. Christ's College, Finchley, N.
Greenfield, P. Newport Gram. S., Isle of Wight.
Kimbell, A. E. Tollington Park College, N.
Richardson, M. B. The College, Weymouth.
Ryder, C. L. d. Private tuition.
Thomas, J. D. St. John's College, Green Lanes, N.
Adkins, C. Wellington College, Salop.
Cooper, H. Sandbach School, Cheshire.
Dilks, L. University School, Southport.
Hart, F. H. Ashford Grammar School.
Hughes, J. T. Grammar School, Altrincham.
Kean, T. St. Mary's College, Woolhampton.
Phillips, R. H. Chesterfield Grammar School.
Stephens, R. Yarn Grammar School.
Twelves, W. A. Chesterfield Grammar School.
Beaumont, J. d. Haringey Park School, Crouch End.
Goodchild, W. H. Tollington Park College, N.
Grossmith, S. Quernmore House S., Bromley, Kent.
Gulleford, H. H. Ealing Grammar School.
Heathcote, C. W. Grammar School, Chesterfield.
Jones, J. Wellington College, Salop.
Liudsay, W. H. University Inst., Euston Rd., N.W.

Lund, C. The High School, Blackpool.
Samuel, W. Great Ealing School, W.
Bradshaw, E. L. Licensed Victuallers' School, S.E.
Butler, F. K. L. Tollington Park College, N.
Harrison, H. V. Collegiate School, Belper.
Hayward, W. St. John's College, Green Lanes, N.
Horn, F. W. Cowley College, New Barnet.
Malo, S. R. St. James' School, Slough.
Newman, H. G. Commercial School, Wymondham.
Puddicombe, T. P. Devon County S., West Buckland.
Railton, L. W. Esplanade House School, Southsea.
Volckman, N. P. Tollington Park College, N.
Bradley, S. L. Pembroke Manse, Kensington.
Collett, E. H. Avenue House School, Sevenoaks.
Dresser, T. K. Balham School.
Green, A. The High School, Brentwood.
Hitchins, J. H. East Cornwall College, Liskeard.
Marsh, E. A. Grammar School, Eye.
Richardson, T. C. d. Dudley Grammar School.
Rudolf, G. St. John's College, Green Lanes, N.
Thwaites, C. E. Private tuition.
Wellband, S. H. Avenue House School, Sevenoaks.
Bekenn, J. J. Wellington College, Salop.
Blake, J. B. Avenue House School, Sevenoaks.
Cook, E. C. F. d. Commercial School, Wymondham.
Cox, O. A. St. James' School, Slough.
Fairburn, F. H. Tollington Park College, N.
Harlopp, E. L. d. Brightlands, West Dulwich.
Harrington, F. J. Balham School.
Harris, A. d. Mount Radford School, Exeter.
Hawkes, T. F. Ryde House, Ripley, Surrey.
Jenkins, A. S. Stanley House, Margate.
Long, E. F. Tollington Park College, N.
Player, H. P. Rye Grammar School.
Smith, W. Kentish Town High School.
Walrond, V. G. St. John's Hospital School, Exeter.
Ambrose, G. M. d. Borthwick House, Bournemouth.
Dean, S. Grammar School, Wirksworth.
De Vaux, G. St. Aloysius' College, Highgate.
Godden, F. Maidstone Grammar School.
Harrod, F. H. Northgate School, Winchester.
Owles, W. d. Wellington College, Salop.
Page, D. S. d. Croad's School, King's Lynn.
Rundle, F. C. Fowey Grammar School.
Shippey, A. T. bk. Avenue House School, Sevenoaks.
Stallou, H. V. Towcester School.
Barker, H. W. Chesterfield Grammar School.
Butt, F. W. Tollington Park College, N.
Ellis, R. C. Tollington Park College, N.
George, J. R. Licensed Victuallers' School, S.E.
Glissan, F. R. D. Wellington College, Salop.
Lawley, S. F. Wellington College, Salop.
Potter, H. E. Commercial School, Wymondham.
Read, A. Soham Grammar School.
Staton, A. d. University School, Southport.
Thomson, T. U. bk. Avenue House School, Sevenoaks.
Brokenshaw, G. B. d. Fowey Grammar School.
Caesar, J. A. L. d. Wellington College, Salop.
Chapman, A. S. University School, Hastings.
Clark, A. E. Halstead Grammar School.
Collis, A. St. John's College, Green Lanes, N.
Goldthorpe, J. d. Alnondbury Grammar School.
Halliday, W. G. d. Grafton House School, Manchester.
Ryder, A. W. Sandbach School, Cheshire.
Smith, H. J. d. University School, Southport.
Tasker, M. B. St. Ethelbert's School, Hampstead.
Winn, W. H. Truro College.
Bigglestone, C. S. Commercial & Gram. S., Herne Bay.
Bugey, F. L. Southgate College, New Southgate.
Cowl, G. A. Marlborough Collegiate S., Tuebrook.
Durians, J. The Grange, Halstead.
James, H. J. Licensed Victuallers' School, S.E.
Kenyon, H. M. The High School, Blackpool.
Lambert, E. H. Horsmonden School.
Lavington, A. Grammar School, Marlborough.
Lulham, S. B. J. The College, Uckfield.
Milnes, J. Alnondbury Grammar School.
Morris, P. H. United Services Coll., Westward Ho.
Perry, V. G. St. Mary's College, Woolhampton.
Poulter, H. W. d. St. Martin's School, York.
Procter, F. E. d. Wellington College, Salop.
Randles, W. The Engadine, Torquay.
Thomas, E. J. Esplanade House School, Southsea.
Weston, A. F. St. George's College, Weybridge.
Winnard, R. A. H. University School, Southport.
Woodward, A. V. The College, Beccles, Suffolk.
Bate, G. Fowey Grammar School.
Batt, A. A. Fulneck School, Leeds.
Bidet, L. St. Thomas Roman Catholic S., Jersey.
Burgess, J. R. Devon County S., West Buckland.
Coulthard, W. A. Ashford Grammar School.
Elliot, C. C. Licensed Victuallers' School, S.E.
House, R. Taplow Grammar School.
Kemp, A. E. St. Lo's School, Amberley, Stroud.
Kemp, A. J. St. Lo's School, Amberley, Stroud.
Logan, K. Cleave's Endowed School, Yalding.
Nelson, C. R. Coopers' Company's S., Bow Road, E.
Tripp, C. E. Harringay School, Green Lanes, N.
Vicary, J. H. Devon County S., West Buckland.
Walter, A. Forest Hill Middle Class School.
Ward, W. d. Richmond House S., Handsworth.
Bevington, H. Tollington Park College, N.
Cabannes, C. L. Magdalen College School, Wainfleet.
Dunstan, T. Truro College.
Fox, G. H. Deal College.
Fyson, P. Soham Grammar School.
Gaiger, E. A. St. George's College, Weybridge.
Godsall, G. R. Wellington College, Salop.
Hanson, E. Rochdale Grammar School.
Harvey, S. C. Sandwich School.
Hawthorn, H. Coopers' Company's S., Bow Road, E.

BOYS, THIRD CLASS—Continued.

Lefroy, H. H. M.	Private tuition.	Norton, H. C.	St. George's College, Weybridge.	Ridgers, B. J.	Ryde House, Ripley, Surrey.
Lowther, W. H.	The High School, Thirsk.	Pepper, G. E.	Wellington College, Salop.	Riddle, H. H.	German & French Coll., Wandsworth.
Maynard, H. R.	East Cornwall College, Liskeard.	Reilly, G.	Polytechnic Intermediate, S.W.	Saunders, R. P.	Tollington Park College, N.
Price, S. E.	Private tuition.	Scott, F.	Coopers' Company's S., Bow Road, E.	Smith, W.	Churwell College, Leeds.
Wearing, J.	Truro College.	Starkie, T. S.	Woodhouse Grove S., Apperley Bdge.	Smith, W.	Osborne High S., West Hartlepool.
Worrall, L.	Private tuition.	Taylor, H. C. G.	Avenue House S., Sevenoaks.	Soar, P.	The College, Hendon.
		Trickett, P.	Higher Grade School, Bacup.	Sutcliffe, J. F.	Higher Grade School, Bacup.
		Walshe, D.	St. Bede's College, Manchester.	Tedbury, W. T.	Tollington Park College, N.
Bagshaw, A.	Collegiate School, Belper.			Tomlin, F. F.	Tollington Park College, N.
Banning, H. W.	Coopers' Company's S., Bow Road, E.	Barkes, A.	Stalmine Hall High S., Preston.	Vandenbroeck, E.	St. George's College, Weybridge.
Birtles, G.	Elmhurst S., Kingston-on-Thames.	Carpenter, G. W.	Grammar S., Market Bosworth.	Vint, A. L.	Hastings Grammar School.
Bryant, C. L.	Truro College.	Cawston, F. H.	Watford Collegiate Schools.	Wright, H. T.	Grammar School, Market Bosworth.
Butler, A. F. R.	Lewisham House S., Weston-s.-Mare.	Clark, J. H.	Tollington Park College, N.	Wood, J. G.	Tollington Park College, N.
Cuc, S. J.	Tollington Park College, N.	Dawson, P. A. W.	Rothbury, St. Leonards-on-Sea.		
Hartley, W.	New Hall Coll., Sutton Coldfield.	Dinn, C. K.	Hoscote House S., West Kirby.	Ainley, H. H.	Churwell College, Leeds.
Hider, S. W.	Tollington Park College, N.	Elliott, F. H.	Tollington Park College, N.	Allen, C. E.	Sandwich School.
Hooper, J. L.	Devon County S., West Buckland.	Fletcher, G. B.	University School, Southport.	Barnard, J. W.	Grammar School, Marlborough.
Johnson, S. E.	The Yorkshire Society's School, S.E.	Howlett, E. R.	Edward VI. Gram. S., Wymondham.	Batt, W. E.	Fulneck School, Leeds.
Orchart, W.	Licensed Victuallers' School, S.E.	Iles, H. S.	Campbell House School, Bristol.	Beamish, J. E. S.	Highfield Collegiate S., Rock Ferry.
Perkins, J. C. C.	Private tuition.	Lowe, T. M.	Oakfield School, Crouch End.	Bennett, J.	Whitelmurch Grammar School.
Vernon, A.	Private tuition.	Manners, C. S.	Southend House, Cheltenham.	Brookes, L. R.	Llandudno College.
Webb, H. C.	Licensed Victuallers' School, S.E.	McBreen, T.	St. Joseph's College, Dumfries.	Brace, E. H.	Coopers' Company's S., Bow Road, E.
		Munro, H. G.	Laugharne House S., Southsea.	Butcher, T. E.	Bethany House School, Goudhurst.
Andrew, N. E.	d. Balham School.	Pickwick, R. M.	St. Lo's School, Amberley, Stroud.	Cottier, L. G.	d. Mutley Grammar S., Plymouth.
Arundell, W. H.	Maidenhead College.	Quirke, M. J.	St. George's College, Weybridge.	Cunliffe, H. F.	d. University School, Southport.
Barlow, C. L.	German & French Coll., Wandsworth.	Robinson, G. H.	Tollington Park College, N.	Davis, A. L.	Highbury Park School, N.
Brunwin, A. D.	College House School, Braintree.	Robinson, N.	Chesterfield Grammar School.	Foster, M. F. J.	Hastings Grammar School.
Cameron, J. A.	d. Leamington Collegiate School.	Rowe, W. S.	Truro College.	Hadaway, C. S.	Newcastle-on-Tyne Modern School.
Clucas, A.	Grammar School, Ormskirk.	Smith, A. N.	North London Collegiate S., N.W.	Jones, A. de L.	Stroud Green Grammar School, N.
Craig, T.	Grafton House S., Manchester.	Trapp, W. H.	Finsbury Park College, N.	Jordan, G.	St. George's College, Weybridge.
Davies, F. H.	Oswestry Grammar School.	Turner, A.	d. Taunton's Trade S., Southampton.	La Corbinière, H.	St. Aloysius' College, Highgate.
Elworthy, E.	University School, Hastings.	Vawdrey, P. L.	Univ. Institute, Euston Rd., N.W.	Lees, B. W.	Werneth Collegiate S., Oldham.
Foot, I.	Hoe Grammar School, Plymouth.	Wiltshire, P. J.	Devon County S., West Buckland.	Lindley, G. H.	The Grammar School, Mirfield.
Grigg, R.	Devon County S., West Buckland.			Newbery, B.	St. Catharine's S., Broxbourne.
Grimwood, A. J.	Kentish Town High School.	Breareley, S. E.	Quernmore House S., Bromley, Kent.	Perrott, F.	d. Taunton's Trade S., Southampton.
Good, J. N.	Ealing Grammar School.	Brookes, A.	Llandudno College.	Probyn, F. E.	University School, Hastings.
Grose, A. M.	Avenue House School, Sevenoaks.	Bond, W. G.	Dr. Morgan's School, Bridgwater.	Robins, W.	Tollington Park College, N.
Knightbridge, H.	Coopers' Company's S., Bow Road, E.	Cox, H.	d. Commercial School, Wymondham.	Turnbull, E.	Baythorn House School, Acton.
Lawrence, S. B.	Deal College.	Crampton, C. G. S.	Taplow Grammar School.	Ward, F.	University School, Hastings.
Lino, R. M.	St. James' School, Slough.	Davies, T.	Grammar School, Ormskirk.	Westwood, H.	Albert Park School, Didsbury.
Milne, J. A.	Coopers' Company's S., Bow Road, E.	Grierson, J. C.	Marlborough Coll. S., Tuebrook.		
Norquoy, F.	High Schools, Chorlton-cum-Hardy.	Harris, S. G.	Woodhouse Grove S., Apperley Bdge.	Adkin, R. A.	Lewisham Park School, S.E.
Rickett, H. C.	Stanley House, Margate.	Henderson, A. A.	University School, Hastings.	Baskerville, J. W.	Sandbach School, Cheshire.
Sanders, E.	St. John's Hospital S., Exeter.	Horsfall, B.	Almondbury Grammar School.	Boyes, S.	d. Taunton's Trade S., Southampton.
Turnham, P. E.	Licensed Victuallers' School, S.E.	Hughes, G.	Beafield College, Plymouth.	Busck, J. A.	Bethany House School, Goudhurst.
		Kopetzky, A.	Oakfield School, Crouch End.	Cox, A. W.	Maidenhead College.
Beckwith, J. H.	Coopers' Company's S., Bow Road, E.	Lamb, J.	Dunheved College, Launceston.	Cunliffe, F. L.	Royal Grammar School, Whalley.
Eddolls, A.	Perin's Grammar School, Alresford.	McLeod, H. T.	Banister Court S., Southampton.	Dearsley, H. W.	North London Collegiate S., N.W.
Fallon, A. D.	d. Truro College.	Sellon, L. W. G.	All Saints' School, Clifton, Bristol.	Fox, W.	Homes for Orphans, Swanley.
Furnivall, H. W.	Mount Radford School, Exeter.	Smith, H.	Chesterfield Grammar School.	Gerhard, P. W.	North London High School, N.W.
Gayford, E. K.	Banham Grammar S., Attleboro'.	Welton, E. G.	Edward VI. Gram. S., Wymondham.	Gilroy, A. J.	Maidenhead College.
Lawrey, F.	Truro College.			Haines, J. H.	Wesley College, Sheffield.
Lyon, J. C.	Waterloo College, Liverpool.	Adams, G.	Alstonefield, Ashbourne.	Harvey, E. A.	Sandwich School.
Noyes, A.	Grammar School, Aberystwith.	Anderson, G. N.	Eldon College, Hull.	Hill, T. R.	Studley Grammar School.
Parker, H. E.	Bethany House School, Goudhurst.	Benney, A. E.	Truro College.	Hinge, H. E.	University School, Strood.
Penney, H. C.	5 South Pallant, Chichester.	Carpenter, A. C.	Private tuition.	Holloway, W. E. C.	Chiswick Preparatory School.
Prince, W. E.	Audlem Grammar S., Nantwich.	Clarke, F. W.	Commercial School, Wymondham.	Jones, H. S.	Dudley Grammar School.
Redington, A. S.	St. George's College, Weybridge.	Davis, W.	The Mead School, Chepstow.	Jones, H. V.	Wellington College, Salop.
Stubbs, C. H. D.	Commercial School, Wymondham.	Dobson, E.	Wellington College, Salop.	Keen, S. J.	Belmont House School, Lee, S.E.
Tompsett, F. J.	Horsmonden School.	Green, H. W.	Whitechurch Grammar School.	Mallo, P.	St. James' School, Slough.
White, L.	Maidenhead College.	Hince, A. H.	Wellington College, Salop.	Millard, F.	Midland Collegiate S., Edgbaston.
Whittington, J. A.	The High School, Blackpool.	Jauralde, A. J.	Highbury Park School, N.	Owen, F. J.	Wellington College, Salop.
Wilnot, W. S.	Midland Collegiate S., Edgbaston.	Lindley, J. A.	The Grammar School, Mirfield.	Piercy, W. E.	St. Martin's School, York.
		Madin, T. R.	Chesterfield Grammar School.	Sheffield, C. P.	St. Asaph Grammar School.
Bromage, E. E.	Private tuition.	Margetts, H. P.	Christ's College, Finchley, N.	Smith, C. S.	Fulneck School, Leeds.
Child, A.	Walden House, Herne Bay.	Mayer, L.	Clarendon House School, Brighton.	Smith, F.	Almondbury Grammar School.
Crossley, E.	Longsight Gram. S., Manchester.	McDonough, H.	Oswestry Grammar School.	Smith, S. P.	5 South Pallant, Chichester.
Dawson, F. C.	New Hall Coll., Sutton Coldfield.	Paine, R.	Avenue House School, Sevenoaks.	Swainston, A. T.	Woodhouse Grove S., Apperley Bdge.
Harris, P. J.	Brixton Grammar School.	Pudney, F. J.	Halstead Grammar School.	Unsworth, J.	St. Joseph's College, Dumfries.
Highton, T.	University School, Southport.	Savage, W. H.	Private tuition.	Wykes, E.	International College, Brixton.
Langshaw, A.	d. Royal Grammar School, Whalley.	Seymour, E. W.	University School, Stroud Green.		
Mann, E.	Sohan Grammar School.	Thomson, T.	Lewisham Park School, S.E.	Atchley, A. H.	Tollington Park College, N.
Moss, C. P.	Tollington Park College, N.	Thorne, H. W.	Sandwich School.	Barnett, W.	Dr. Morgan's School, Bridgwater.
Pease, A.	115 Elswick Rd., Newcastle-on-Tyne	Watkins, W. F. M.	Wellington College, Salop.	Bignell, W. A.	Towcester School.
Perrins, H. W.	Hastings Grammar School.	Williams, W. R.	Thistleboon House S., Mumbles.	Clayton, E. G.	111 Lloyd St., Greenheys, M'chester
Schofield, J.	The Grammar School, Mirfield.	Wright, J. L.	Grammar School, Wirksworth.	Collins, A.	Tollington Park College, N.
Smith, W. J. I. H.	Licensed Victuallers' School, S.E.			Collins, S. F.	University School, Southport.
Staton, P.	University School, Southport.	Alden, H.	Oxford County School, Thame.	Cooper, A.	Wesley College, Sheffield.
Steven, E. A.	Montrose College, Brixton Hill.	Bartlett, R. H.	Paignton School.	Denton, P.	The Grammar School, Mirfield.
Vinter, R. A.	Woodhouse Grove S., Apperley Bdge.	Blakely, W. R.	Borthwick House, Bournemouth.	Fisher, G. S.	Grammar School, Wirksworth.
Webb, E. A. E.	Licensed Victuallers' School, S.E.	Brown, J. A.	The Grammar School, Mirfield.	Fry, S.	Marlborough Collegiate S., Tuebrook
		Brundret, J.	Longsight Grammar S., Manchester	Glass, W. F.	d. The Grammar School, Handsworth
Brain, C. R.	Archbishop Holgate's S., York.	Cardell, G. P.	Private tuition.	Holden, G.	Grammar School, Belper.
Brook, F. T.	Horley Grammar School.	Cresswell, F. T.	Halstead Grammar School.	Hoskins, J. J.	Licensed Victuallers' School, S.E.
Brooks, T.	Devon County S., West Buckland.	Felgate, W.	Private tuition.	Hughes, A. G.	Marlborough Collegiate S., Tuebrook
Brown, E. L.	Friern Barnet High School.	Forshaw, J.	St. Joseph's College, Dumfries.	Lloyd, J. D.	Wellington College, Salop.
Child, A. G.	The Mead School, Chepstow.	Ham, F. J.	d. Mutley Grammar School, Plymouth	Makepeace, H. E.	Wellington College, Salop.
Cowing, J. B.	Wesley College, Sheffield.	Hutchinson, W.	d. Chiltern House S., High Wycombe.	Molyneux, C. J.	Knowsley, Torquay.
De Grauw, A.	St. Aloysius' College, Highgate.	Maris, W. B.	Nonconform. Gram. S., Bp. Stortford	Okey, F. J.	High School for Boys, Bournemouth
Devaux, C.	St. Joseph's College, Dumfries.	Oxford, H. G.	Kunnella School, Bournemouth.	Parkins, H. L.	Richmond House S., Handsworth.
Elmes, C.	St. Mary's College, Woolhampton.	Oxley, H.	Archbishop Holgate's S., York.	Roberts, R.	St. Asaph Grammar School.
Hands, G. C.	Great Ealing School, W.	Rawlins, E.	Chesterfield Grammar School.	Robinson, J.	Grammar School, Ormskirk.
Hardy, F.	Tollington Park College, N.	Snow, C. N.	University School, Hastings.	Rowe, J. B.	d. The Abbey School, Penzance.
Harvey, W.	Newport Grammar S., Isle of Wight	Stead, C. S.	The High School, Blackpool.	Shelton, N.	Chesterfield Grammar School.
Harvey, W. S.	Commercial School, Wymondham.	Terry, R. H.	Rye Grammar School.	Tucker, G.	Taplow Grammar School.
Horne, H. B.	Belmont House School, Lee, S.E.	Turner, B. W.	Grammar School, Eye.	Wheatstone, C. A.	Warwick House School, Southsea.
Hughes, P. H.	Hastings Grammar School.	Westrup, W.	Horsmonden School.		
Hunter, H. K.	Heathfield School, Streatham.	White, C. H.	Private tuition.	Adderley, H.	Grammar School, Belper.
Hutchens, F.	Vickery's, Southsea.			Barwell, H. J.	Whitelyons, Brentwood.
Levy, C. S.	Hillmartin Coll., Camden Rd., N.W.	Ash, E. L.	Cowley College, New Barnet.	Brown, J. B.	Bethany House School, Goudhurst.
Mugford, E. F.	Barnstaple Grammar School.	Brady, J.	Beafield College, Plymouth.	Bond, C. C.	Brunswick House School, Windsor.
Pearse, F.	Plympton Grammar School.	Brindley, F. P.	Wesleyan Higher Grade S., Burslem	Carritt, G.	St. George's College, Brampton.
Savage, S. E. H.	Coopers' Company's S., Bow Road, E.	Brook, R.	Horley Grammar School.	Collyer, W. J.	Ryde House, Ripley, Surrey.
Small, C. C.	The Commercial School, Ludlow.	Butcher, T. G.	Montrose College, Brixton Hill.	Coltman, L. F.	Deal College.
		Candler, A. G.	High School, Sutton, Surrey.	Ford, M. L.	Stratford House School, Stratford.
Berridge, H. M. K.	Grammar School, Wirksworth.	Collins, F. L.	Maida Vale School, W.	Green, W. E.	Classical & Mathemat. S., Swaffham.
Capleton, A. B.	St. John's Coll., Green Lanes, N.	Collings, H.	Keyford School, Frome.	Hall, A.	Oakfield School, Crouch End.
Cuddon, W. B.	Polytechnic Intermediate, S.W.	Darke, F. H.	Brunswick House School, Windsor.	Hallas, C. E. W.	Almondbury Grammar School.
Fanshawe, R.	Chesterfield Grammar School.	Johnson, T.	d. Commercial School, Wymondham.	Hardy, E. J.	St. Edmund's College, Birmingham.
Foster, L.	St. Joseph's College, Dumfries.	Kenway, W.	Clewer House, Windsor.	Haskell, J. A.	Kunnella School, Bournemouth.
Foulkes, S. N.	Llandudno College.	Lambert-White, B.	Beafield College, Plymouth.	Hince, C. W.	Wellington College, Salop.
Griunthal, M.	Ramsgate School.	Macdonald, W. R.	Arundel House School, Surbiton.	Innes, H. P.	Esplanade House School, Southsea.
Hood, A.	Royal Grammar School, Whalley.	McDonald, J. S.	Montrose College, Brixton Hill.	Kay, H.	d. Collett House School, Bournemouth
Horsman, J.	North London Collegiate S., N.W.	Oger, R.	Grammar School, Ormskirk.	Kelland, P. J. L.	Heavitree Collegiate School, Exeter
Mann, F. H. R.	Coopers' Company's S., Bow Road, E.	Penney, B.	Upland Coll., Newington Green, N.	Low, O.	Newport Grammar S., Isle of Wight.
Maybury, A. E.	Marlborough Coll. S., Tuebrook.	Phillips, F.	Rye Grammar School.	Martin, C. V.	Collegiate School, Wakefield.
Mitchell, E. P.	Private tuition.	Randell, E.	Montrose College, Brixton Hill.		
Mouro, F. A.	St. John's Coll., Green Lanes, N.				

BOYS, THIRD CLASS—Continued.

- Nickinson, J. St. John's College, Brixton.
 Probyn, T. d. University School, Hastings.
 Purcell, J. D. St. George's College, Weybridge.
 Savory, L. N. Chesterfield Grammar School.
 Sayer, F. J. Brunswick House School, Windsor.
 Sheard, G. The Grammar School, Mirfield.
 Shipham, J. F. Truro College.
 Smith, G. P. St. Philip's Grammar S., Edgbaston.
 Snape, S. Royal Grammar School, Whalley.
 Standley, L. Commercial School, Wymondham.
 Stooke, F. A. Borden School, Sittingbourne.
 Tyler, A. T. Dr. Morgan's School, Bridgwater.
 Wilson, R. Fulneck School, Leeds.
 Wood, E. E. Wesley College, Sheffield.
- Archer, T. New Hall College, Sutton Coldfield.
 Astor, R. W. Wellington College, Salop.
 Beare, E. G. German & French Coll., Wandsworth.
 Blakely, J. F. d. Borthwick House, Bournemouth.
 Brend, C. C. University School, Hastings.
 Brewer, P. d. Royal Grammar School, Whalley.
 Colton, F. M. Halstead Grammar School.
 Conyers, J. L. Horst College, Pannal, Harrogate.
 Dixon, J. H. Tollington Park College, N.
 Dunstan, R. Montrose College, Brixton Hill.
 Dyson, B. P. St. Martin's School, York.
 Dyson, F. H. Wesley College, Sheffield.
 Falconer, J. L. High Schools, Chorlton-cum-Hardy.
 Godsell, T. W. University School, Hastings.
 Jackson, J. d. Taunton's Trade S., Southampton.
 Johnson, J. B. Argyle House School, Sunderland.
 Jones, W. G. St. Asaph Grammar School.
 Ledgard, C. W. The Grammar School, Mirfield.
 Major, C. W. W. Dr. Morgan's School, Bridgwater.
 May, E. Tollington Park College, N.
 Metcalf, J. Sandwich School.
 Purkis, A. Newport Grammar S., Isle of Wight.
 Prickett, H. Newport Grammar S., Isle of Wight.
 Scott, C. E. St. Augustine's Gram. S., Dewsbury.
 Soutter, J. H. Finsbury Park College, N.
 Theakston, E. G. Hillmartin Coll., Camden Rd., N.W.
 Thomas, W. The Mead School, Chepstow.
 Townshend, H. O. Finsbury Park College, N.
 Walker, R. Grammar School, Belper.
 Walsh, J. J. St. Philip's Grammar S., Edgbaston.
 Ward, R. J. Warwick House School, Southsea.
 Wilson, S. A. Farnham Grammar School.
 Witt, W. S. Northgate School, Winchester.
 Underhill, T. E. East Cornwall College, Liskeard.
- Baker, H. F. R. Devon County S., West Buckland.
 Cowin, G. College House School, Croydon.
 Davies, H. Truro College.
 Harding, C. P. d. University School, Southport.
 Harris, J. A. Licensed Victuallers' School, S.E.
 Herring, E. A. Argyle House School, Sunderland.
 Houghton, H. G. Laurel Bank School, Hr. Broughton.
 How, F. H. Uxbridge School.
 Hughes, W. Nonconform. Gram. S., Bp. Stortford.
 Hutton, F. Northgate School, Winchester.
 Lyckett, S. H. St. James' College, Great Grimsby.
 Maddock, S. C. Wellington College, Salop.
 McNulty, J. St. Bede's College, Manchester.
 Morris, E. J. St. Loe's School, Amberley, Stroud.
 Nightingale, R. S. College House School, Croydon.
 Nosworthy, A. J. Private tuition.
 Owen, T. Walton School, Llangollen.
 Page, G. F. Midland Collegiate S., Edgbaston.
 Part, E. W. Catford Collegiate School.
 Russell, T. Yarm Grammar School.
 Shorrocks, J. I. Private tuition.
 Stamper, W. R. W. Kurnella School, Bournemouth.
 Ware, C. R. St. Martin's School, York.
 Warlow, E. Grammar School, Ormskirk.
 Westbrook, F. Pendleton High S., Manchester.
- Ada, J. E. Maidenhead College.
 Brooks, F. M. Private tuition.
 Brown, W. N. Grove House School, Highgate.
 Buchan, W. Tollington Park College, N.
 Burrage, R. University School, Hastings.
 Clarke, R. Vickery's, Southsea.
 Collings, L. Taunton House School, Brighton.
 Cooper, J. L. Godwynhurst, Dover.
 Crinks, V. A. Redland Grove College, Bristol.
 Elgar, C. J. Kilvinton House, Dover.
 Hubbard, J. E. Polytechnic Intermediate School, W.
 Hughes, G. Tottenham College.
 King, J. St. Mary's College, Woolhampton.
 Lees, G. H. Werneth Collegiate School, Oldham.
 Makins, R. W. Commercial School, Wymondham.
 Middleton, R. B. Quernmore House School, Bromley.
 Moate, A. Hall Gate School, Doncaster.
 O'Brien, C. W. Academy of St. Paulinus, Catherick.
 Pascall, W. G. Nonconform. Gram. S., Bp. Stortford.
 Pellett, A. N. Quernmore House School, Bromley.
 Ruscoe, W. A. Wellington College, Salop.
 Sawtell, W. R. Kingston School, Yeovil.
 Simpson, A. M. Grafton House School, Manchester.
 Stothert, H. H. Royal Grammar School, Whalley.
 Street, A. Carter House School, Deal.
 Taylor, C. G. Ratcliffe College, Leicester.
 Taylor, H. P. Polytechnic Intermediate School, W.
 Ward, H. G. St. John's College, Green Lanes, N.
 Wood, L. Argyll House School, Balham.
 Wright, H. Kurnella School, Bournemouth.
- Allan, A. Tollington Park College, N.
 Allwork, W. C. d. University School, Hastings.
 Boughton, S. Tollington Park College, N.
 Clarke, J. St. George's College, Brampton.
 Eccles, H. St. Joseph's College, Dumfries.
 Everitt, R. Stratford House School, Stratford.
 Fawcett, J. The Grammar School, Mirfield.
 Gaiger, F. L. Northgate School, Winchester.
- Grace, F. Wellington College, Salop.
 Gradwell, H. S. High School, Barnsley.
 Harden, W. G. Dr. Morgan's School, Bridgwater.
 Harrison, R. D. Tollington Park College, N.
 Herring, W. Kent Coast College, Herne Bay.
 Hill, S. D. Edward VI. Gram. S., Wymondham.
 Holmes, H. H. Grove House School, Highgate.
 Hutchins, A. J. C. St. John's Choir S., St. Leonards-on-S.
 James, J. N. Cardiff Middle Class School.
 Jones, H. Pannal Ash College, Harrogate.
 May, H. Montpelier School, Paignton.
 Moth, J. C. St. Mary's College, Woolhampton.
 Nowell, R. P. Fulneck School, Leeds.
 Rubie, E. C. Sidecup College.
 Seal, W. Hertford County Coll., High Barnet.
 Stenlake, R. J. L. East Cornwall College, Liskeard.
 Tarrant, H. S. d. Oxford County School, Thame.
 Thomas, W. H. Old College School, Carmarthen.
 Tuck, W. B. Commercial School, Wymondham.
 Walsh, J. N. d. Polytechnic Intermediate S., W.
 Watson, H. R. Hertford County Coll., High Barnet.
 Wells, P. M. 87 Buckingham Palace Road, S.W.
 White, J. D. Chesterfield Grammar School.
 White, W. H. K. Archbishop Holgate's S., York.
 Wiens, B. M. Sutton Park School, Surrey.
 Woolfrey, W. F. Mayall College, Herne Hill.
- Bailey, E. W. Truro College.
 Bate, R. Dudley Middle Class School.
 Chitty, H. Kilvinton House, Dover.
 Cowell, F. T. University School, Hastings.
 Harrison, W. P. L. Hatton House S., Newark-on-Trent.
 Hendra, R. H. Truro College.
 Heriot, W. B. Tollington Park College, N.
 Hughes, J. K. Horsmonden School.
 Manley, W. St. George's College, Brampton.
 Masters, C. Trafalgar House S., Winchester.
 Ollivant, F. University School, Southport.
 Pattison, J. Finsbury Park College, N.
 Reid, H. A. Oakfield School, Crouch End.
 Richards, B. D. Quernmore House S., Bromley, Kent.
 Robinson, J. G. St. James' College, Great Grimsby.
 Russell, A. H. Chiltern House S., High Wycombe.
 Stevens, G. P. Boys' High School, Bedminster.
 Thomson, C. D. Tollington Park College, N.
 Tracy, T. F. Maidenhead College.
 Varco, R. Fowey Grammar School.
 Ward, W. E. Commercial S., Redenhall, Harleston.
 Wollen, A. Taplow Grammar School.
- Bishop, H. A. Oxford County School, Thame.
 Brown, W. J. A. University School, Strood.
 Calman, F. St. Joseph's College, Dumfries.
 Cameron, H. St. Loe's School, Amberley, Stroud.
 Colfer, J. Beaconfield College, Plymouth.
 Croaker, P. Taplow Grammar School.
 Davies, R. The Academy, Llandilo.
 Davis, S. L. Highbury Park School, N.
 Ellis, J. W. L. Wesley College, Sheffield.
 Ellis, T. W. The Truro Collegiate School.
 Flowerdew, C. Grammar School, Eye.
 Hanlou, J. St. Joseph's College, Dumfries.
 Jackson, H. M. Wellington College, Salop.
 Lavington, W. H. Southgate College, New Southgate.
 Lee, H. Chandos School, Hereford.
 Mattinson, W. B. Woodhouse Grove S., Apperley Bdge.
 Munworthy, W. H. Chaloner's School, Braintree.
 Oates, W. B. St. Mary's College, Woolhampton.
 Olds, H. J. E. Stroud Green Grammar School, N.
 Oliver, R. S. Archbishop Holgate's School, York.
 Orr, N. F. Fulneck School, Leeds.
 Puiry, E. S. Ratcliffe College, Leicester.
 Rees, J. E. Grammar School, Aberystwith.
 Shrimpton, F. H. The Vale College, Ramsgate.
 Shufflebotham, G. H. 111 Lloyd St., Greenheys, M'chester.
 Taylor, F. Royal Grammar School, Whalley.
 Traise, S. H. Truro College.
 Trick, W. W. Swansea College.
 Tucker, A. B. Hillmartin Coll., Camden Rd., N.W.
 Turner, J. F. University School, Southport.
 Tyler, F. J. Dr. Morgan's School, Bridgwater.
 Webb, F. G. Llandudno College.
 Wheelodon, G. University School, Southport.
 Wilkinson, A. St. John's College, Green Lanes, N.
- Ashton, A. Licensed Victuallers' School, S.E.
 Attenborough, A. G. Private tuition.
 Bowen, J. W. Wesley College, Sheffield.
 Coram, S. Oswestry Grammar School.
 Cowtan, E. W. B. University School, Hastings.
 Crowe, T. E. ger. Horsmonden School.
 Dolphin, A. J. St. Bede's College, Manchester.
 Foot, J. S. Hoe Grammar School, Plymouth.
 Foucard, W. V. d. Maidenhead College.
 Goodall, J. A. Wesley College, Sheffield.
 Hargreaves, J. T. Woodhouse Grove S., Apperley Bdge.
 Hulett, H. Wellington College, Salop.
 Hunt, G. H. Tollington Park College, N.
 Jones, B. St. Joseph's College, Dumfries.
 Lane, G. W. Kent Coast College, Herne Bay.
 Laurie, D. V. Private tuition.
 Lodge, G. H. Kimberley Grammar S., Falmouth.
 Loebell, E. Longlight Grammar S., Manchester.
 Mackarel, P. F. The High School, Blackpool.
 McArdle, C. St. Joseph's College, Dumfries.
 Modlin, G. C. Private tuition.
 Pearce, W. H. Tollington Park College, N.
 Petley, J. W. Banham Grammar S., Attleborough.
 Sanders, H. B. Kentish Town High School.
 Scott, W. L. Newcastle-on-Tyne Modern School.
 Sylvester, W. T. F. Friern Barnet High School.
 Trew, R. J. F. Windsor House School, Saltash.
 Vickers, W. C. L. Private tuition.
 Waerner, M. St. George's College, Weybridge.
 Went, R. D. Campbell House School, Bristol.
 Westley, W. St. Aloysius' College, Highgate.
- White, E. W. St. John's College, Brixton.
 Withers, E. E. Vermont College, Clapton.
- Bellows, P. Bussage House, Stroud.
 Blampied, C. G. St. James' Collegiate School, Jersey.
 Brown, J. A. Eye Grammar School.
 Carpenter, T. E. St. John's College, Green Lanes, N.
 Cave, A. Kentish Town High School.
 Coghill, C. W. Ratcliffe College, Leicester.
 Colmer, C. Yeovil Grammar School.
 Corben, W. G. Oakfield School, Crouch End.
 Donnet, W. Glenwood House, Winchmore Hill.
 Duncan, W. Marlborough Collegiate S., Tuebrook.
 Evans, S. H. Tollington Park College, N.
 Farrer, C. R. The College, Weymouth.
 Foster, F. H. M. Rye Grammar School.
 Fuller, W. F. Rye Grammar School.
 Ginzburg, D. Tollington Park College, N.
 Goodman, B. High School, Sutton, Surrey.
 Gorman, W. J. St. John's Hospital School, Exeter.
 Jones, W. J. St. Philip's Grammar S., Edgbaston.
 Laurie, L. Private tuition.
 Liell, L. W. Horsmonden School.
 McNally, R. H. Hoe Grammar School, Plymouth.
 Newsome, T. St. Philip's Gram. S., Edgbaston.
 Nixon, F. Grammar School, Wirksworth.
 Porter, J. H. Catford Collegiate School.
 Pritchard, C. H. St. George's College, Weybridge.
 Shepherd, H. Archbishop Holgate's School, York.
 Shuley, J. St. Mary's College, Woolhampton.
 Somans, H. St. John's College, Green Lanes, N.
 Starkie, R. E. Woodhouse Grove S., Apperley Bdge.
 Van Cooten, E. de C. Mary St. House School, Taunton.
 Vine, S. 83 Montpelier Road, Brighton.
 Walmsley, F. T. Kent Coast College, Herne Bay.
 Whitaker, H. Archbishop Holgate's School, York.
 Whittell, H. Almondsbury Grammar School.
 Williams, W. R. Brighton House School, Bristol.
- Bain, G. H. Argyle House School, Sunderland.
 Brown, I. H. Studley Grammar School.
 Cain, F. T. Woodhouse Grove S., Apperley Bdge.
 Crompton, C. D. Dudley Grammar School.
 Crouch, W. H. T. Grammar School, Steyning.
 Cuff, S. G. Nonconform. Gram. S., Bp. Stortford.
 David, W. P. Tanyrallt School, Pontardawe.
 Dymond, S. J. Bible Christian College, Shebbear.
 Emmerson, E. B. Woodhouse Grove S., Apperley Bdge.
 Evans, A. E. Tanyrallt School, Pontardawe.
 Ford, J. Coopers' Company's S., Bow Road, E.
 Goldstein, M. Ramsgate School.
 Gradwell, A. R. Royal Grammar School, Whalley.
 Johnston, D. D. Southgate College, New Southgate.
 Larkin, W. R. Bethany House School, Goudhurst.
 O'Carroll, J. McC. St. James' School, Slough.
 Ormrod, J. A. University School, Southport.
 Peters, K. K. Haringey Pk. School, Crouch End.
 Philpots, T. Northgate School, Winchester.
 Poole, H. B. Tollington Park College, N.
 Price, P. M. Dudley Middle Class School.
 Prince, C. H. Alstonefield, Ashbourne.
 Prince, H. H. Archbishop Holgate's S., York.
 Rhodes, H. Churwell College, Leeds.
 Rigby, R. St. Philip's Grammar S., Edgbaston.
 Simon, H. Lewisham Park School, S.E.
 Smith, C. H. Taunton House School, Brighton.
 Wentworth, W. L. Woodhouse Grove S., Apperley Bdge.
 White, A. Baythorn House School, Acton.
 Wickins, S. Heathfield School, Streatham.
 Witherspoon, J. M. Tollington Park College, N.
 Wyde, A. Licensed Victuallers' School, S.E.
- Airey, H. P. Royal Grammar School, Whalley.
 Appleyard, J. Private tuition.
 Bemberton, J. Great Ealing School, W.
 Blackmore, W. O. Homes for Orphans, Swanley.
 Bridger, H. W. The Modern School, Chichester.
 Chew, J. W. Royal Grammar School, Whalley.
 de Wolf, G. le B. Balham School.
 Fouracre, R. Tollington Park College, N.
 Hall, F. Tottenham College.
 Heaven, S. P. Studley Grammar School.
 Ismay, R. Newcastle-on-Tyne Modern School.
 Knowles, S. E. Watford Collegiate Schools.
 Maber, F. J. Manor House School, Havant.
 Owens, O. Grammar & Collegiate S., Carnarvon.
 Randolph, C. J. Private tuition.
 Sharnan, G. P. Wesley College, Sheffield.
 Stephens, H. G. P. Wellington College, Salop.
 Stodart, E. H. German & French Coll., Wandsworth.
 Terry, H. S. Collingwood House S., Paignton.
 Toulson, E. College House School, Croydon.
 Watson, R. Newcastle-on-Tyne Modern School.
 Whitehouse, G. Wellington College, Salop.
 Wilcockson, J. S. Chesterfield Grammar School.
 Willis, P. E. University School, Southport.
 Wilson, R. A. Newcastle-on-Tyne Modern School.
- Abbott, H. Taplow Grammar School.
 Arkell, T. M. Cardiff Middle Class School.
 Bartter, E. Sandwich School.
 Bath, A. The Vale College, Ramsgate.
 Brien, W. E. J. Coopers' Company's S., Bow Road, E.
 Christmas, E. Farnham Grammar School.
 Corbett, P. Wellington College, Salop.
 Foxcroft, J. A. Tollington Park College, N.
 Goode, A. E. Tollington Park College, N.
 Gray, L. Private tuition.
 Griffiths, R. Taunton's Trade S., Southampton.
 Groffman, E. South Hackney High School.
 Groom, C. H. Edward VI. Gram. S., Wymondham.
 Horley, R. T. R. St. Catherine's School, Broxbourne.
 Jones, W. H. Marlborough Collegiate S., Tuebrook.
 Kennedy, J. Newport Grammar S., Isle of Wight.
 Kerton, R. E. Taunton's Trade S., Southampton.
 Knowles, P. E. Watford Collegiate Schools.

BOYS, THIRD CLASS—Continued.

Leigh, P.	University School, Southport.
Lovell, A. J.	University School, Hastings.
Major, H. J.	Dr. Morgan's School, Bridgwater.
Mareaso, P. D.	Great Ealing School, W.
Norman, A. C.	Yeovil Grammar School.
Phayer, R.	Worcester School.
Pilgrim, C. N.	Banham Grammar S., Attleborough.
Plomley, S.	Maidstone Grammar School.
Renton, A. W. P.	Southgate College, New Southgate.
Richards, W. H.	Midland Collegiate S., Edgbaston.
Ridgeway, H. E.	Watford Collegiate Schools.
Russell, R. J.	Private tuition.
Schofield, T.	The High School, Blackpool.
Schutz, H.	Private tuition.
Shortland, A. D. V.	Eton House S., Anerley Road, S.E.
Singleton, T.	St. Bede's College, Manchester.
Smith, A.	Grammar School, Aberystwith.
Smith, A.	Osborne High S., West Hartlepool.
Sutton, C. E.	Northgate School, Winchester.
Thrupp, R.	Taunton House School, Brighton.
Walton, F. W.	Woodhouse Grove S., Apperley B'dge

THIRD CLASS.—2ND DIVISION.

ABear, J. H.	Oxford County School, Thame.
Armstrong, C.	Quernmore House S., Bromley, Kent
Bate, B. H.	Dudley Middle Class School.
Cloke, F. H.	Sandwich School.
Collis, A.	St. John's College, Green Lanes, N.
Colmer, A. H.	Grammar School, Yeovil.
Daly, F.	University School, Hastings.
David, D. P.	Old College School, Carmarthen.
Eagle, L. W.	Banham Grammar S., Attleborough.
Edwards, H.	Rye Grammar School.
Evans, D. D.	Oswestry Grammar School.
Flowers, J.	Taunton House School, Brighton.
Foster, J. B.	Old Elvet School, Durham.
Graham, J. T.	Holmwood, Bexhill.
Grayson, J.	Grammar School, Ormskirk.
Griffiths, R. F.	27 Water Street, Rhyl.
Hancock, R. L.	All Saints' School, Clifton, Bristol.
Hardman, E.	d. University School, Southport.
Hughes, L. E.	Edward VI. Gram. S., Wymondham.
Hunter, S. C.	Ryde House, Ripley, Surrey.
Keddie, A. M.	College House School, Braintree.
Klean, H. J.	Great Ealing School, W.
Lark, H. A.	Newport Gram. S., Isle of Wight.
Lidiard, P. A.	Maidenhead College.
Mellows, C. H.	Fulneck School, Leeds.
Morgan, G. O.	Narberth Grammar S., Pembroke.
Poppleton, S.	Hall Gate School, Doncaster.
Prior, E. S.	Private tuition.
Readman, J. W.	Collegiate School, Middlesbrough.
Roberts, H. T.	University School, Hastings.
Scotland, T.	Newcastle-on-Tyne Modern School.
Stockham, W. F.	Bible Christian College, Shebbear.
Swan, W. L.	Tollington Park College, N.
Symonds, E. H.	Grammar School, Eye.
Thies, C. E.	Woodhouse Grove S., Apperley B'dge.
Tonkin, H. L.	Tollington Park College, N.
Walters, J. R. N.	Hoe Grammar School, Plymouth.
Washington, I.	Hall Gate School, Doncaster.
Wells, A.	St. John's College, Green Lanes, N.
White, F. G.	Bible Christian College, Shebbear.
Whitworth, P. W.	Dudley Grammar School.
Winter, G.	St. Bede's College, Manchester.
Badeock, W. H. S.	Lonsdale House, Moseley.
Bridger, W. J.	St. Patrick's Middle School, W.C.
Butcher, H. T.	Emwell House School, Warminster.
Cork, L.	University School, Stroud.
Crabtree, T. L.	Middleton Grammar S., Manchester.
Dawkins, T. H.	St. John's College, Green Lanes, N.
Gerrard, F. T.	d. Polytechnic Intermediate School, W.
Hodge, L.	University School, Southport.
Hunter, J. H.	Keyford School, Frome.
Kerfoot, S. J.	Jesmond Boys' Coll., Newcastle-on-T
Lakeman, H.	Taplow Grammar School.
Laycock, H. S.	Montrose College, Brixton Hill.
Lea, C. E.	Archbishop Holgate's School, York.
Lepper, T. G.	Maidenhead College.
Ling, H. J.	Edward VI. Gram. S., Wymondham.
Parkes, R. L.	New Hall College, Sutton Coldfield.
Rotheram, W.	University School, Southport.
Sandys, A. P.	d. Royal Grammar School, Whalley.
Scholes, E. F.	Laurel Bank School, Hr. Broughton.
Shipway, A. E.	St. Loe's School, Amberley, Stroud.
Shortland, H. V.	Eton House S., Anerley Rd., S.E.
Spurgeon, R. H.	Nonconform. Gram. S., Bp. Stortford
Stead, C. F.	Private tuition.
Thomas-Vane, W.	Polytechnic Intermediate School, W.
Thoms, N. W.	Keyford School, Frome.
Walker, F. L.	Wellington College, Salop.
Wright, E. E.	Whitechurch Grammar School.
Wright, J.	University School, Southport.
Young, H. A.	Maidenhead College.
Alexander, J. K.	Woodhouse Grove S., Apperley B'dge.
Andrews, H. G. R. F.	Vickery's, Southsea.
Azerad, J.	Great Ealing School, W.
Boyd, W. J.	Independent College, Taunton.
Connolly, A.	St. Mary's College, Woolhampton.
Gates, A.	Grammar School, Steyning.
Grew, E.	St. Patrick's Middle School, W.C.
Inglis, J.	Waterloo College, Liverpool.
Laithwaite, W.	St. Joseph's College, Dumfries.
LeBoutillier, L. J.	Carlton House School, Jersey.
Levy, R. D. M.	Maida Vale School, W.
Macquarie, C.	Bethany House School, Goudhurst.
Mills, H.	Rye Grammar School.
Pearce, E.	Cowley College, New Barnet.
Phillipson, H. E.	St. Mary's College, Woolhampton.
Pidoux, G. S.	Taplow Grammar School.

Pinehing, R. H.	German & French Coll., Wandsworth
Priestley, T. F.	Wesley College, Sheffield.
Pugh, H. A.	Grammar School, Aberystwith.
Sharman, P. J.	Brightlands, West Dulwich.
Smith, W. J.	Cowley College, New Barnet.
Snell, S. R.	East Cornwall College, Liskeard.
Strudwick, W.	Quernmore House S., Bromley, Kent.
Sweeney, E.	St. Mary's College, Woolhampton.
Turner, J. W.	Woodhouse Grove S., Apperley B'dge.
Vowles, H.	The School, Wineanton.
Walker, C.	Grammar School, Ormskirk.
Waller, R. G.	St. Margaret's College, Lowestoft.
Webb, H. J.	St. Martin's School, York.
Wiekett, F.	Truro College.
Altham, J.	Higher Grade School, Bacup.
Ball, W. H. G.	Cowley College, New Barnet.
Beken, F. W.	Grammar School, Cowes.
Berrill, R.	St. Edmund's College, Birmingham.
Buck, M. W.	Streatham College, S.W.
Burdett, F.	Hall Gate School, Doncaster.
Capon, B.	Grammar & Collegiate S., Carnarvon.
Chapman, C. D.	Great Ealing School, W.
Clark, C. E.	Churwell College, Leeds.
Cocks, H. B.	Dunheved College, Lameeston.
Cole, S. H.	Almondbury Grammar School.
Dawe, H. R.	Midland Collegiate S., Edgbaston.
Dawson, G. F.	Almondbury Grammar School.
Donaldson, F.	Woodhouse Grove S., Apperley B'dge.
Gill, P.	Dudley Grammar School.
Haekett, N.	Chesterfield Grammar School.
Hillyard, C. H.	St. Martin's School, York.
Hunt, D. S.	All Saints' School, Clifton, Bristol.
John, S. R.	Emwell House School, Warminster.
Loveday, L. E.	German & French Coll., Wandsworth
Maclardy, H. A.	Oswestry Grammar School.
Marshall, G. E.	St. Martin's School, York.
O'Brien, W.	Academy of St. Paulinus, Catterick.
Oliver, J. R.	Fowey Grammar School.
Pye, E.	Argyll House School, Balham.
Quin, J.	Academy of St. Paulinus, Catterick.
Strudwick, P.	Quernmore House S., Bromley, Kent.
Turner, J. W.	Almondbury Grammar School.
Walker, W. E.	Ilkley College.
Wells, T. G. R.	The Choir School, Wells Street, W.
Whitworth, H.	Dudley Grammar School.
Adler, H. G.	Uxbridge School.
Asquith, T. H.	The Academy, York St., Wakefield.
Atkey, B.	Newport Grammar S., Isle of Wight.
Barling, W. H.	Rye Grammar School.
Barton, C.	Bussage House, Stroud.
Binns, R. H.	Almondbury Grammar School.
Blake, R. P.	East Cornwall College, Liskeard.
Brown, E.	Grammar School, Ormskirk.
Eastwood, H.	Royal Grammar School, Whalley.
Fullford, C. H.	Deal College.
Giles, W. B.	Southgate College, New Southgate.
Harrald, C. J.	Bethany House School, Goudhurst.
Jarvis, H. C.	Grammar School, Steyning.
Johnson, S. G.	Churwell College, Leeds.
Kendon, A. J.	Bethany House School, Goudhurst.
Loseby, C. E.	Grammar School, Market Bosworth.
Masters, J.	St. Aloysius' College, Highgate.
McEwan, G. E.	East Cornwall College, Liskeard.
McFarlane, G. D.	Hoe Grammar School, Plymouth.
Meen, M. A.	Islington High School, N.
Mertens, H. G.	All Saints' School, Clifton, Bristol.
Middleton, B. M.	Quernmore House School, Bromley.
Peacock, W. R.	Bowdon College, Cheshire.
Roberts, H. L.	Holt Academy, Wrexham.
Roper, F.	The College, Hendon.
Smith, C. L. A.	Grammar School, Steyning.
Stockings, D. C.	Commercial School, Wymondham.
Strina, A.	Baythorn House School, Acton.
Warner, E. H.	Commercial School, Wymondham.
Waterhouse, J. N.	Woodhouse Grove S., Apperley B'dge.
Whipleeh, H.	Middleton Gram. S., Manchester.
Adolph, A. J.	St. George's College, Weybridge.
Barrett, P.	Beafield College, Plymouth.
Boulton, C. V.	Balham School.
Braithwaite, J. W.	Banham Gram. S., Attleborough.
Cayasso, J. B.	Ratcliffe College, Leicester.
Chapman, A. J.	Brunswick House S., Windsor.
Cheetham, W. A.	University School, Southport.
Clark, G. W.	Boys' High School, Bedminster.
Collins, M.	Ramsgate School.
Cooke, E. G. B.	53 Elgin Crescent, W.
Cooper, E. M.	Cowley College, New Barnet.
deCourcy, H.	St. Aloysius' College, Highgate.
Deverill, E. T.	Oxford County School, Thame.
Forman, A. C.	d. Taplow Grammar School.
Furness, C. A.	Chesterfield Grammar School.
Gonne, F.	St. Bede's College, Manchester.
Greenwood, F. C.	Tollington Park College, N.
Griffiths, E.	Private tuition.
Hoole, F. R. S.	Haringey Park S., Crouch End.
Ingram, W. T.	St. Loe's S., Amberley, Stroud.
Jarmy, J. R.	University School, Stroud.
Mason, H.	Loughboro' College, Brixton.
Mellings, T.	Wellington College, Salop.
Messum, S.	Walden House, Herne Bay.
Moore, W. P.	Emwell House S., Warminster.
Moraes, J. J.	St. George's College, Weybridge.
Mortlock, S. W.	Banham Gram. S., Attleborough.
Newton, B. A.	Soham Grammar School.
Pitel, W. F.	d. St. Mary's Lodge, St. Leonards-on-S.
Rhodes, C.	The Grammar School, Mirfield.
Riley, C. H.	University School, Southport.
Rocke, C. B. F. L.	Vickery's, Southsea.
Rose, H.	Grammar School, Eye.
Saffery, T.	Oakfield School, Crouch End.
Seetree, H. W.	Waterloo College, Liverpool.
Shuter, P. J.	Bethany House School, Goudhurst.
Smythe, F.	Acad. of St. Paulinus, Catterick.

Thompson, W. H.	The Yorkshire Society's S., S.E.
Vale, R. S.	High S. for Boys, Bournemouth.
Waller, C.	Taunton's Trade S., Southampton.
Westbrook, F. R.	Southdown College, Eastbourne.
Bott, M. W.	Oswestry Grammar School.
Chapman, H. E. S.	The Choir School, Wells Street, W.
Coebran, A. C. P.	High Park Hall, Ryde.
Connolly, J.	St. Joseph's College, Dumfries.
Critchley, H. T.	St. Loe's School, Amberley, Stroud.
Dale, S. A.	Northgate School, Winchester.
Fletcher, F.	Cowley College, New Barnet.
Forteseue, C. L.	High S. for Boys, Bournemouth.
Franeis, H.	Keyford School, Frome.
Gibson, E.	Chiltern House S., High Wycombe.
Gray, H.	Private tuition.
Gregory, S. P.	Bible Christian Coll., Shebbear.
Hallam, R. D.	Woodside House S., Sutton, Surrey
Huckvale, R.	Maidenhead College.
Langley, F. B.	Wesley College, Sheffield.
Lederer, E. I.	Ramsgate School.
Morford, R.	Maidenhead College.
Muers, G. E.	Yarm Grammar School.
Pigott, H.	Baythorn House School, Acton.
Prettejohn, L. O.	Mount Radford School, Exeter.
Rawlings, H. E.	Keyford School, Frome.
Rider, H. E.	North London High School, N.W.
Rogers, E.	Private tuition.
Roper, F. S.	Oswestry Grammar School.
Simmons, A. J.	Llandudno College.
Stancombe, A. S.	Truro College.
Story, W.	St. Joseph's High School, Cardiff.
Tuxford, A.	Clarendon House School, Brighton.
Tysoe, C.	The Mead School, Chesham.
Waterfall, T. W.	St. James' College, Great Grimsby.
Wilson, A.	Polytechnic Intermediate School, W
Wilson, A. E.	St. Bede's College, Manchester.
Baird, A. J.	Dudley Grammar School.
Beasley, L. H.	Grammar School, Wirksworth.
Benham, D. K.	University School, Hastings.
Briangoni, A.	Taplow Grammar School.
Buhts, J. P.	Gorey Commercial School, Jersey.
Chard, C. P.	Dr. Morgan's School, Bridgwater.
Chimney, W. J. L.	Grammar School, Steyning.
Davies, B.	Old College School, Carmarthen.
Day, R.	St. John's Choir S., St. Leonards-on-S
Derry, P. F.	Private tuition.
Ellis, J. W.	Private tuition.
Eynon, J. R.	Whitelyons, Brentwood.
Gardner, H. C.	Catford Collegiate School.
Grimwade, F. W.	Soham Grammar School.
Hallett, J.	Tollington Park College, N.
Hanson, J.	Grammar School, Wirksworth.
Head, S. P.	Grammar School, Marlborough.
Herbert, L.	Bussage House, Stroud.
Hicks, H.	Fowey Grammar School.
Nock, G. W.	Perin's Grammar School, Alresford.
Sarratt, C. D.	Esplanade House School, Southsea.
Saunders, E.	Uxbridge School.
Scott, C.	St. Martin's School, York.
Shrewsbury, E. E.	Maidenhead College.
Smith, F.	Werneth Academy, Oldham.
Storry, H. A.	Laugharne House School, Southsea.
Sutherst, C. H.	Witton Grammar S., Northwich.
Wilson, H. J.	Fulneck School, Leeds.
Wilson, J. H.	Selhurst Park College, S.E.
Wright, W. B.	Brunswick House School, Windsor.
Blenkinsop, A. R. M.	Truro College.
Brightwell, G. P.	Archbishop Holgate's School, York.
Byshe, E. H.	Montrose College, Brixton Hill.
Chapman, C.	Keyford School, Frome.
Cohen, H.	Richmond House S., Handsworth.
Cook, A. L.	The Vale College, Ramsgate.
Coulson, T. E.	Hatton House S., Newark-on-Trent.
Fuller, W. R.	West Brighton High School.
Green, A. C.	Stanley House, Margate.
Harlopp, C. W. L.	Brightlands, West Dulwich.
Havercroft, J.	St. James' College, Great Grimsby.
Healing, W. H.	Coopers' Company's S., Bow Road, E.
Homer, E.	Independent College, Taunton.
Howgate, H.	Burnside School, Ilkley.
Mayo, M. G.	Knowsley, Torquay.
McDonald, D. W.	Coopers' Company's S., Bow Road, E.
Pearson, F.	St. Philip's Grammar S., Edgbaston.
Sansons, W. T.	Leamington Collegiate School.
Short, H. P.	Chesterfield Grammar School.
Shuttleworth, R. R.	Higher Grade School, Bacup.
Stokes, H. O.	The Salop School, Oswestry.
Thompson, A. W.	Clare House, Hull.
Wacher, J. R.	Walden House, Herne Bay.
Walkey, J. R.	High Park Hall, Ryde.
Webb, S. H.	Kilvinton House, Dover.
Wheeler, H. F. B.	Tollington Park College, N.
Willis, H. C.	Cowley College, New Barnet.
Aked, P.	University School, Hastings.
Anthony, J.	East Cornwall College, Liskeard.
Bagshawe, W. F.	Kilvinton House, Dover.
Beckett, F.	St. Martin's School, York.
Black, R.	St. Martin's School, York.
Bowry, C.	Elmhurst S., Kingston-on-Thames.
Brawu, C. M.	St. Mark's Middle Class S., Walsall.
Breidenbach, F. G. L.	West Brighton High School.
Brymer, H. S.	Esplanade House School, Southsea.
Cabuzet, A. B.	Marlborough Coll. S., Tuebrook.
Carr, H.	Tottenham College.
Cleare, F.	St. John's College, Brixton.
Cook, J.	Streatham College, S.W.
Day, W. G.	Keyford School, Frome.
Field, P. H.	Bethany House School, Goudhurst.
Francis, H. S.	Grove House School, Highgate.
Grey, J.	Roehdale Grammar School.
Griffith, H.	Private tuition.
Gross, L.	Great Ealing School, W.
Hanna, W.	Baythorn House School, Acton.

BOYS, THIRD CLASS—Continued.

- Harari, S. Great Ealing School, W.
 Jay, A. H. Horsmonden School.
 Jones, J. Grammar & Collegiate S., Carnarvon
 Lederer, A. C. Ramsgate School.
 Lewis, A. J. Keyford School, Frome.
 Mash, H. R. T. Newcastle-on-Tyne Modern School.
 Michols, J. Princess Rd. High School, Liverpool.
 Miller, A. J. College House School, Croydon.
 Morris, T. C. East Cornwall College, Liskeard.
 Moser, R. Private tuition.
 Motta, A. C. Great Ealing School, W.
 Murray, W. R. St. James' School, Slough.
 Pape, G. A. Kingston School, Yeovil.
 Porter, C. B. Archbishop Holgate's School, York.
 Readhead, A. J. Chiltern House S., High Wycombe.
 Redington, R. J. St. George's College, Weybridge.
 Self, J. A. Newport Grammar S., Isle of Wight
 Sidgwick, R. M. Argyle House School, Sunderland.
 Simpson, C. P. Fulneck School, Leeds.
 Sims, G. R. Horley Grammar School.
 Skinner, G. H. B. Rye Grammar School.
 Smith, W. S. Tollington Park College, N.
 Spurgeon, E. F. Nonconform. Gram. S., Bp. Stortford
 Tasker, H. St. Basil's School, Hampstead.
 Tod, W. L. Oakfield School, Crouch End.
 Williams, L. Cardigan Grammar School.
- Bird, S. A. Trafalgar House S., Winchester.
 Box, W. F. Lewisham Park School, S.E.
 Collier, S. University School, Southport.
 Derrymann, H. Kingston School, Yeovil.
 Down, E. B. Devon County S., West Buckland.
 Dummett, G. H. Vermont College, Clapton.
 Godolphin, G. T. Kent Coast College, Herne Bay.
 Habgood, S. V. Sandown College, Isle of Wight.
 Hesk, R. C. Chandos School, Hereford.
 Jones, J. L. The Academy, Llandilo.
 King, F. R. Northgate School, Winchester.
 Knight, B. Selhurst Park College, S.E.
 Lee, M. de C. Ramsgate School.
 Lever, L. St. Bede's College, Manchester.
 Macfadyen, J. Sandyford Acad., Newcastle-on-T.
 McIntee, L. St. Joseph's College, Dumfries.
 Midelton, W. S. Mary Street House School, Taunton.
 Montague, H. P. Vickery's, Southsea.
 Murdstone, C. Fulneck School, Leeds.
 Pulford, H. A. St. James' College, Great Grimsby.
 Reidy, H. St. J. George's College, Weybridge.
 Richards, E. E. Wesley College, Sheffield.
 Rodway, E. H. New Hall Coll., Sutton Coldfield.
 Rule, J. M. Truro College.
 Russell, G. F. Marlborough Collegiate S., Tuebrook
 Salter, W. Dr. Morgan's School, Bridgewater.
 Sharnan, G. G. Brightlands, West Dulwich.
 Thomson, A. Newport Grammar S., Isle of Wight.
 Trump, E. G. The School, Sidmouth.
 Walker, J. F. The Academy, York St., Wakefield
 Warlow, E. Grammar School, Ormskirk.
 Watson, J. T. Archbishop Holgate's S., York.
 White, F. A. Boys' High School, Westminster.
 Williams, R. F. Oswestry Grammar School.
 Williams, T. St. Asaph Grammar School.
 Wilson, H. Nonconform. Gram. S., Bp. Stortford
 Wood, G. C. Fulneck School, Leeds.
 Wood, W. C. Friern Barnet High School.
- Arnell, D. C. Vickery's, Southsea.
 Ashmore, A. C. Woodside House S., Sutton, Surrey
 Barnard, F. Newport Grammar S., Isle of Wight.
 Barton, G. Great Ealing School, W.
 Brine, T. A. Private tuition.
 Catherwood, T. Horsmonden School.
 Copland, R. B. Fulneck School, Leeds.
 Courlander, A. Ramsgate School.
 Cross, A. Clewer House, Windsor.
 Deayton, E. L. Richmond Hill School, S.W.
 Elmslie, W. Hertford County Coll., High Barnet.
 Ford, W. Academy of St. Paulinus, Catterick
 Healey, A. Grammar S., Market Harborough.
 Hudson, G. W. Churwell College, Leeds.
 Laity, H. H. Dunheved College, Launceston.
 Lang, F. B. Mutley Grammar S., Plymouth.
 Nicholson, D. Jesmond Boys' Coll. Newcastle-on-T.
 Pulleyn, W. C. W. Albert Park School, Didsbury.
 Rayson, W. E. Laughton House S., Southsea.
 Smith, J. St. Aloysius' College, Highgate.
 Spencer, T. W. Woodhouse Grove S., Apperley Bdge.
 Stephens, A. Tollington Park College, N.
 Tinson, H. St. Martin's School, York.
 Treille, F. St. Aloysius' College, Highgate.
- Ashby, H. Forest Hill Middle Class School.
 Audsley, G. H. The Academy, York St., Wakefield.
 Bencke, J. A. Manor House School, Wavant.
 Blackmore, W. Tottenham College.
 Brown, S. A. Horley Grammar School.
 Brutou, J. W. St. John's College, Green Lanes, N.
 Cavanagh, C. E. St. Mary's College, Woolhampton.
 Compton, H. A. Devon County S., West Buckland.
 Dowd, E. G. Nonconform. Gram. S., Bp. Stortford
 Edwards, A. L. Banister Court S., Southampton.
 Fitzgerald, M. M. A. Dr. Morgan's School, Bridgewater.
 Forster, P. G. The Grammar School, Willesden.
 Fraser, T. M. Lyttleton Grammar S., Malvern.
 Grose, A. H. Truro College.
 Harry, T. L. Oswestry Grammar School.
 Hatfield, J. S. St. Augustine's Gram. S., Dewsbury.
 Milligan, R. W. Tollington Park College, N.
 Muckleston, F. R. Tollington Park College, N.
 Paull, H. M. Grammar School, Aberystwith.
 Pearce, F. J. Stationers' Company's School, E.C.
 Reeve, G. H. Clarendon House School, Norwich.
 Rogers, D. C. R. Balham School.
 Sauness, A. T. W. Brunswick House School, Windsor.
 Sharp, A. B. Quernmore House School, Bromley.
- Spilsted, E. Rye Grammar School.
 Stone, F. Kent Coast College, Herne Bay.
 Sturt, H. J. Montrose College, Brixton Hill.
 Taylor, H. W. Balham School.
 Turnbull, H. X. Baythorn House School, Acton.
 Vyvyan, N. St. Martin's School, York.
 Willmot, H. W. Tollington Park College, N.
 Windus, G. Grammar School, Ormskirk.
 Young, A. D. W. Holt Academy, Wrexham.
- Andrade, M. B. Great Ealing School, W.
 Bartlett, A. J. Barnstaple Grammar School.
 Bayliss, C. W. G. Private tuition.
 Bennett, E. Stoke Public Higher S., Devonport.
 Broad, W. A. Littleton Grammar School, Malvern.
 Cook, G. W. Commercial School, Wymondham.
 Dawson, W. G. Woodhouse Grove S., Apperley Bdge
 De Wolf, J. S. Balham School.
 Elliott, E. The Commercial School, Ludlow.
 Everest, E. H. H. Putney School, East Putney.
 Fryer, G. E. Edward VI. Gram. S., Wymondham.
 Gurney, E. R. Uxbridge School.
 Halsey, G. E. Oakfield School, Crouch End.
 Haynes, A. Hertford County Coll., High Barnet.
 Hood, H. Werneth Academy, Oldham.
 Hutchinson, C. E. Yarm Grammar School.
 Jones, R. H. Wellington College, Salop.
 Lakeman, A. C. Fowey Grammar School.
 Lambolt, P. St. Aloysius' College, Highgate.
 Lane, F. W. Commercial School, Wymondham.
 Mace, J. E. Edward VI. Gram. S., Wymondham.
 MacMillan, A. Grammar School, Eye.
 Matthias, J. L. Independent College, Taunton.
 McDowall, J. Coopers' Company's S., Bow Road, E.
 Moyses, A. G. Brunswick House School, Windsor.
 Nadaud, H. Moldova House S., Clapham Park Rd.
 Pellow, H. Mount Radford School, Exeter.
 Piercy, G. A. Waterloo College, Liverpool.
 Pratt, G. H. Almondbury Grammar School.
 Price, W. L. Mary Street House School, Taunton.
 Rigby, O. Sandbach School, Cheshire.
 Samuelson, C. St. Basil's School, Hampstead.
 Still, E. J. Emwell House School, Warrminster.
 Utting, J. W. Wellington College, Salop.
 Wallace, G. V. Maidenhead College.
 Wilson, J. B. Marlborough Collegiate S., Tuebrook
 Winbush, E. T. Brondesbury High School, N.W.
- Anderton, J. W. Preparatory S., West Cliff, Wigan.
 Ansell, E. T. Deal College.
 Bartter, C. W. H. Lyttleton Grammar S., Malvern.
 Colahan, W. Archbishop Holgate's School, York.
 Coleman, V. J. Edward VI. Gram. S., Wymondham.
 Cox, G. P. St. James' School, Slough.
 Croft, A. A. G. St. Martin's School, York.
 Dewar, J. D. North London High School, N.W.
 Dickin, J. S. Wellington College, Salop.
 Fawcett, F. S. Newcastle-on-Tyne Modern School.
 Finlow, F. Sandbach School, Cheshire.
 Goffin, T. F. Hastings Grammar School.
 Goodland, H. C. Mary Street House School, Taunton.
 Green, G. Horsmonden School.
 Hope, H. S. Banham Grammar S., Attleborough.
 Hughes, D. Academy of St. Paulinus, Catterick.
 Keam, J. Fowey Grammar School.
 Lambert, W. H. H. The Modern School, Chichester.
 Luke, R. M. Hoe Grammar School, Plymouth.
 McNaught, T. P. Tollington Park College, N.
 Meeson, C. M. Clewer House, Windsor.
 Menzies, W. H. Grammar School, Altrincham.
 Murray, G. E. Cardiff Middle Class School.
 Orchard, J. F. The School, Sidmouth.
 Otter, W. St. Martin's School, York.
 Parry, H. Lyttleton Grammar S., Malvern.
 Pedrette, H. R. Highbury Park School, N.
 Peet, T. Grammar School, Ormskirk.
 Pool, H. H. Fowey Grammar School.
 Rehm, H. Ealing Grammar School.
 Ritson, W. F. Seafield Academy, Newcastle-on-T.
 Salway, A. St. Catherine's School, Broxbourne.
 Scott, R. J. Holt Academy, Wrexham.
 Sheldrake, H. B. Taunton House School, Brighton.
 Shorrocks, F. L. University School, Southport.
 Smith, E. W. H. Dudley Middle Class School.
 Speak, J. Royal Grammar School, Whalley.
 Stewart, T. Kent Coast College, Herne Bay.
 Thomas, J. Cardigan Grammar School.
 Tracey, H. St. Bede's College, Manchester.
 Watts, L. W. Harringay Collegiate School, N.
- Bennett, H. W. Esplanade House School, Southsea.
 Bonnor, G. F. Clyde House, Hereford.
 Bussy, J. Moldova House S., Clapham Pk. Rd.
 Carlyon, W. C. Lyttleton Grammar School, Malvern
 Cooper, G. Sandbach School, Cheshire.
 Cork, T. P. Grove House School, Highgate.
 Crofton, C. A. Newcastle-on-Tyne Modern School.
 Davidson, C. G. F. Stoke Preparatory S., Devonport.
 Gardner, W. E. G. Cowley College, New Barnet.
 Gee, W. Chiltern House S., High Wycombe.
 Girdlestone, C. C. Woodside House S., Sutton, Surrey.
 Goddard, G. D. C. Collingwood House S., Paignton.
 Gosbourne, E. N. Dudley Grammar School.
 Harris, W. N. Woodhouse Grove S., Apperley Bdge.
 Haycraft, L. C. Friern Barnet High School.
 Hegarty, H. W. Ratcliffe College, Leicester.
 Helliwell, W. Collegiate School, Wakefield.
 Hills, P. Le C. Maidstone Grammar School.
 Jacobs, L. A. Argyle House School, Sunderland.
 Kinnaird, C. St. Aloysius' College, Highgate.
 Lee, J. Newport Grammar S., Isle of Wight
 Mortimer, G. E. Devon County S., West Buckland.
 Mortimer, H. St. Basil's School, Hampstead.
 Payne, A. Taunton's Trade S., Southampton.
 Pearce, W. L. Montgomery H., Tunbridge Wells.
 Pierce, W. D. Grammar and Coll. S., Carnarvon.
- Pitcher, H. G. University School, Strood.
 Renton, A. Grammar School, Ormskirk.
 Richards, J. North London High Schools, N.W.
 Robinson, C. B. A. Oswestry Grammar School.
 Russell, C. A. The School, Sidmouth.
 Sidgreaves, T. A. St. G. St. Mary's Lodge, St. Leonards-on-S.
 Simmons, G. A. Llandudno College.
 Tonge, H. Selhurst Park College, S.E.
 Walton, S. J. Seafield Academy, Newcastle-on-T.
 Wheat, F. G. Private tuition.
 Wheeler, R. Private tuition.
 Williams, C. G. Kilvinton House, Dover.
- Ada, W. J. Maidenhead College.
 Arncliffe, G. Churwell College, Leeds.
 Bramwell, I. L. Osborne High S., West Hartlepool.
 Brown, H. T. The Collegiate S., Pembroke Dock.
 Butler, H. Preliminary Medical College, S.E.
 Campbell, D. E. Hermitage School, Bath.
 Collingham, R. H. Private tuition.
 Coradine, W. A. Whitehurch Grammar School.
 Corlett, G. Woodside House S., Sutton, Surrey.
 Denne, R. T. Sandwich School.
 Dixon, L. W. Banister Court S., Southampton.
 Exley, E. J. Wellington College, Salop.
 Fleming, H. Halstead Grammar School.
 Gale, R. N. Laughton House S., Southsea.
 Gibson, A. Fulneck School, Leeds.
 Ions, G. E. Newcastle-on-Tyne Modern School.
 Laven, J. St. Bede's College, Manchester.
 Leighton, H. S. High School, Sutton, Surrey.
 Madgett, F. Grammar School, Eye.
 Markall, E. C. St. Edmund's College, Birmingham.
 McCowan, J. W. Private tuition.
 Norman, E. C. Kingston School, Yeovil.
 Paulton, J. St. Mary's College, Woolhampton.
 Perry, E. O. Halstead Grammar School.
 Robinson, S. Woodhouse Grove S., Apperley Bdge.
 Ronca, J. Moldova House S., Clapham Pk. Rd.
 Smithson, W. The Grammar School, Mirfield.
 Sobey, M. M. Bethany House School, Goudhurst.
 Stephenson, W. Academy of St. Paulinus, Catterick.
 Taylor, H. L. Wesley College, Sheffield.
 Thomas, J. Old College School, Carmarthen.
 Thomas, T. Old College School, Carmarthen.
 Truslove, T. H. P. Leamington Collegiate School.
 Wallace, E. O. N. Ealing Grammar School.
 Wood, J. W. Pannal Ash College, Harrogate.
- Bell, H. D. Laurel Bank School, Hr. Broughton
 Bennett, W. H. Grammar & Collegiate S., Carnarvon
 Bingley, P. H. Private tuition.
 Brook, P. St. Martin's School, York.
 Callow, F. W. Bethany House School, Goudhurst.
 Carr, H. A. High S., Springfield Mount, Leeds.
 Drawbridge, L. Bussage House, Stroud.
 Duval, O. W. 53 Elgin Crescent, W.
 Flood, A. Belmont House School, Lec, S.E.
 Grover, H. M. University School, Hastings
 Harrington, G. A. Balham School.
 Hook, C. M. Kingston School, Yeovil.
 Kenyon, H. The High School, Blackpool.
 Meaden, H. A. Tollington Park College, N.
 Mellings, R. G. The Commercial School, Ludlow.
 Odell, J. R. St. John's College, Brixton.
 O'Neil, F. Academy of St. Paulinus, Catterick.
 Payne, H. F. North London High School, N.W.
 Philpot, J. W. St. Loe's School, Amberley, Stroud.
 Pickersgill, F. L. Argyle House School, Sunderland.
 Redman, H. J. Chiltern House S., High Wycombe.
 Roberts, J. H. Oakfield School, Crouch End.
 Sanders, G. H. S. Mutley Grammar School, Plymouth.
 Scammell, F. The School, Wincanton.
 Sharp, F. G. New College, Margate.
 Slatter, A. Chandos School, Hereford.
 Weston, F. R. Godwynehurst, Dover.
 Woodgate, G. M. Trent College, Notts.
- Allison, C. Wellington College, Salop.
 Bannon, J. St. Bede's College, Manchester.
 Bull, W. Tottenham College.
 Burton, C. W. Trafalgar House School, Winchester.
 Christmas, S. C. Coopers' Company's S., Bow Road, E.
 Chudleigh, F. W. Private tuition.
 Cresswell, T. T. Halstead Grammar School.
 Davies, D. M. Old College School, Carmarthen.
 Ford, T. Academy of St. Paulinus, Catterick.
 Gaskell, A. L. Woodside House S., Sutton, Surrey.
 Goodman, P. Baythorn House School, Acton.
 Harrington, W. A. Balham School.
 Herbert, R. H. Holt Academy, Wrexham.
 Hockey, F. H. Maidenhead College.
 Martinucci, E. W. N. Bible Christian College, Shebbear
 Maynard, P. McA. Valetta, Clevedon.
 Moynaux, W. H. Wotton Grammar S., Northwich.
 Moore, W. H. B. Glenwood House, Winchmore Hill.
 Perry, E. G. St. Philip's Grammar S., Edgbaston.
 Phillips, J. H. The Salop School, Oswestry.
 Salter, H. W. A. Trafalgar House S., Winchester.
 Smith, E. G. Dudley Grammar School.
 Tolerton, G. H. Wellington College, Salop.
 Wade, G. H. St. John's College, Brixton.
 Walters, G. St. Mary's College, Woolhampton.
 Welch, J. H. Highbury Park School, N.
- Abbott, A. H. Maidenhead College.
 Bailey, J. T. Oxford County School, Thame.
 Bingley, R. D. Private tuition.
 Brookes, W. R. Llandudno College.
 Brown, H. E. Trafalgar House S., Winchester
 Clarke, E. H. St. Mary's College, Woolhampton
 Clarke, W. Montrose College, Brixton Hill
 Croxford, J. W. Bethany House School, Goudhurst.
 Cusworth, J. St. Philip's Grammar S., Edgbaston.
 Esnouf, R. F. Carlton House School, Jersey.
 Fitzgerald, T. St. Basil's School, Hampstead.

BOYS, THIRD CLASS—Continued.

Goodliffe, G. G. Fulneck School, Leeds.
 Griffiths, D. W. Oswestry Grammar School.
 Guest, T. H. Horsnonden School.
 Hadfield, S. R. Sutton Park School, Surrey.
 Harland, T. Osborne High S., West Hartlepool.
 Hunt, E. Wellington College, Salop.
 Huxtable, M. Private tuition.
 Kibrit, H. Great Ealing School, W.
 Lec, T. H. Ryde House, Ripley, Surrey.
 Matterson, J. H. The Academy, York, St., Wakefield.
 McCarnie, M. G. Royston Villa S., New Barnet.
 Petter, J. Kingston School, Yeovil.
 Roberts, F. New Hall College, Sutton Coldfield.
 Roberts, W. G. Grammar School, Altrincham.
 Roberts, W. R. Almondbury Grammar School.
 Simmonds, G. E. Bethany House School, Goudhurst.
 Swires, C. W. Churwell College, Leeds.
 Smith, E. B. Lyttleton Grammar S., Malvern.
 Smith, R. T. Tollington Park College, N.
 Steil, A. G. Tollington Park College, N.

THIRD CLASS.—3RD DIVISION.

Beaton, W. G. Streatham College, S.W.
 Benaim, A. D. Great Ealing School, W.
 Bowness, A. Taplow Grammar School.
 Buret, T. J. C. Southgate College, New Southgate.
 Claxton, J. E. Selhurst Park College, S.E.
 Collins, W. W. Deal College.
 Dark, J. Walden House, Herne Bay.
 Florence, T. H. 111 Lloyd St., Greenheys, M'chester.
 Ford, C. W. St. Mary's College, Woolhampton.
 Foreman, G. C. Selhurst Park College, S.E.
 Goldsmith, C. J. St. Mary's College, Woolhampton.
 Graves, E. W. Deal College.
 Hacker, G. A. St. Philip's Grammar S., Edgbaston.
 James, A. H. Taplow Grammar School.
 James, E. St. Bernard's School, Ainger Rd., N.
 Lawrence, J. W. W. Trafalgar House S., Winchester.
 Lowry, W. H. Taplow Grammar School.
 Mitchell, J. Ryde House, Ripley, Surrey.
 Morris, P. R. Clyde House, Hereford.
 Owen, E. Narberth Grammar S., Pembroke.
 Paul, A. R. Ealing Grammar School.
 Rae, W. T. Oakfield School, Crouch End.
 Ralph, S. L. Deal College.
 Sandford, W. G. Whitchurch Grammar School.
 Shaw, W. A. Yarm Grammar School.
 Sloggett, J. Fowey Grammar School.
 Smith, A. A. Brunswick House School, Windsor.
 Smith, E. Sandwich School.
 Turner, F. W. Highfield Collegiate S., Rock Ferry.
 Vernon, R. Wellington College, Salop.
 Von Joel, W. Southgate College, New Southgate.
 Williams, D. E. Old College School, Carmarthen.
 Williams, S. Old College School, Carmarthen.
 Wise, H. H. Watford Collegiate Schools.
 Bartlett, T. Montpelier School, Paignton.
 Edey, T. A. Quernmore House S., Bromley, Kent.
 Gray, W. A. Kent Coast College, Herne Bay.
 Greenstreet, F. G. Streatham College, S.W.
 Hargreaves, F. University School, Southport.
 Haswell, R. V. Oakfield School, Crouch End.
 Holditch, R. H. Whitchurch Grammar School.
 Holdnall, C. E. Dudley Middle Class School.
 Hughes, E. H. The Salop School, Oswestry.
 Jones, T. A. Clyde House, Hereford.
 Ling, S. T. Commercial School, Wymondham.
 Metcalf, F. G. Private tuition.
 Nicholls, H. E. Tanyrallt School, Pontardawe.
 Patmore, T. H. Modern School, Walthamstow.
 Pettit, H. Tottenham College.
 Phillips, C. B. Wellington College, Salop.
 Pontet, B. St. Bede's College, Manchester.
 Roach, P. E. Carter House School, Deal.
 Sease, T. Elmhurst S., Kingston-on-Thames.
 Seville, H. Werneth Collegiate School, Oldham.
 Short, L. E. T. Streatham College, S.W.
 Simpson, R. A. Woodhouse Grove S., Apperley Bdge.
 Smith, H. A. Maidstone Grammar School.
 Spanton, G. F. Kilvinton House, Dover.
 Sutton, F. St. James' College, Great Grimsby.
 Taylor, H. Hall Gate School, Doncaster.
 Tracey, E. St. Bede's College, Manchester.
 Tucker, R. A. F. The School, Sidmouth.
 Turner, M. Lonsdale House, Mosely.
 Walduck, E. St. Aloysius' College, Highgate.
 Ward, Y. Stoke Preparatory S., Devonport.
 Wild, J. A. Werneth Academy, Oldham.
 Wolfe, H. The Hall School, Sunderland.
 Young, H. F. Taplow Grammar School.
 Bowen, J. J. Old College School, Carmarthen.
 Buckley, M. F. Werneth Collegiate School, Oldham.
 Bullen, V. A. Carter House School, Deal.
 Caudwell, R. Trafalgar House S., Winchester.
 Carver, A. Newport Grammar S., Isle of Wight.
 Charlton, J. St. Martin's School, York.
 Cloutte, C. R. West Brighton High School.
 Corbett, P. H. Wellington College, Salop.
 Cramb, E. A. Truro College.
 Dodwell, P. A. Oxford County School, Thame.
 Drake, A. Loughboro' College, Brixton.
 Evans, E. S. Grammar School, Aberystwith.
 Ferriday, H. J. Wellington College, Salop.
 Fox, C. I. Thistleboon House S., Mumbles.
 Gubbay, D. M. Great Ealing School, W.
 Ham, G. T. Bethany House School, Goudhurst.
 Hancock, A. E. Dr. Morgan's School, Bridgwater.
 Haughton, A. J. Sandbach School, Cheshire.
 Hillier, H. S. Keyford School, Frome.
 Holliday, G. A. Churwell College, Leeds.
 Holman, H. J. Hermitage School, Bath.

Jewsbury, P. L. St. Philip's Grammar S., Edgbaston.
 Jones, E. L. The Salop School, Oswestry.
 Lindon, A. Highbury Park School, N.
 Mayes, C. W. Coopers' Company's S., Bow Road, E.
 Robinson, E. G. 3 Belgrave Villas, Lee, S.E.
 Schilizzi, G. D. Holnwood, Bexhill.
 Schlesinger, H. Great Ealing School, W.
 Thomas, D. W. Cardigan Grammar School.
 Tonkin, S. S. University School, Strood.
 Wickham, R. Trafalgar House S., Winchester.
 Williams, H. H. Grammar School, Aberystwith.
 Wilson, J. Churwell College, Leeds.
 Winhurst, S. F. Taplow Grammar School.
 Young, R. W. Banham Grammar S., Attleborough.

Bach, G. Newport Grammar S., Isle of Wight.
 Battersby, J. Middleton Grammar S., Manchester.
 Bombroffe, J. J. Hatton House S., Newark-on-Trent.
 Brierley, J. S. Almondbury Grammar School.
 Broomhall, F. L. High School, Barnsley.
 Browne, W. H. Selhurst Park College.
 Clark, A. H. Balham School.
 Coulter, R. D. Anglo-French High S., Hornsey.
 Davis, C. S. Maida Vale School, W.
 Drinkwater, T. Wellington College, Salop.
 Eddy, M. J. Banister Court School, Southampton.
 Elliot, C. Mayall College, Herne Hill.
 Freeman, W. Beaconfield College, Plymouth.
 Golder, A. C. Sandwich School.
 Goncalves, M. A. St. George's College, Weybridge.
 Hollingum, A. J. Coopers' Company's S., Bow Road, E.
 Horne, D. D. Wirral College, Rock Ferry.
 Leighton, J. St. Philip's Grammar S., Edgbaston.
 Milnes, F. Almondbury Grammar School.
 Ramsey, W. A. Yarm Grammar School.
 Richardson, A. G. Deal College.
 Robertson, D. G. Almondbury Grammar School.
 Sharp, A. St. Bede's College, Manchester.
 Sobey, H. H. Goonini's Ho. S., St. Agnes, Cornwall.
 Solly, R. H. Sandwich School.
 Starnes, J. S. Coopers' Company's S., Bow Road, E.
 Sutton, H. C. Private tuition.

Baker, F. I. Friern Barnet High School.
 Bell, T. A. Laurel Bank School, Chr. Broughton.
 Bishop, L. Bradmore College, Chiswick.
 Buswell, F. B. St. Philip's Grammar S., Edgbaston.
 Castelow, C. Brandon Villa School, New Leeds.
 Cheesman, F. J. Oswestry Grammar School.
 Collard, D. G. Taplow Grammar School.
 Cox, W. C. Mayall College, Herne Hill.
 Crosby, F. Yarm Grammar School.
 Davies, F. C. Belmont House School, Lee, S.E.
 Dingle, A. Fowey Grammar School.
 Forsyth, W. H. Ratcliffe College, Leicester.
 Giblett, T. H. Oakfield School, Crouch End.
 Harris, D. High School, Sutton, Surrey.
 Haswell, W. H. Wellington College, Salop.
 Holdsworth, H. Almondbury Grammar School.
 Huggins, W. L. Nonconform. Gram. S., Bp. Stortford.
 Jones, J. O. The Academy, Llandilo.
 Lambert, W. Private tuition.
 Lobb, H. Baythorn House School, Acton.
 Maspero, G. St. Bede's College, Manchester.
 Mowll, E. W. Kilvinton House, Dover.
 Oram, R. Argyll House School, Balham.
 Oxenham, E. J. B. Lewisham Park School, S.E.
 Pates, H. S. Deal College.
 Pearce, F. M. Tollington Park College, N.
 Price, H. G. Oswestry Grammar School.
 Richards, D. Tanyrallt School, Pontardawe.
 Shapley, J. B. Taplow Grammar School.
 Stanley, W. C. Bethany House School, Goudhurst.
 Watts, G. H. Sandwich School.
 Webb, S. Albert Park School, Didsbury.
 White, A. F. Selhurst Park College, S.E.
 Yeo, W. L. Collingwood House S., Paignton.
 Zeffertt, E. L. Maida Vale School, W.

Barber, H. Grammar S., Market Harborough.
 Bayley, H. J. Deal College.
 Brady, James. Beaconfield College, Plymouth.
 Buffery, W. R. Private tuition.
 Clarke, E. A. Oxford County School, Thame.
 Coggan, J. H. Montrose College, Brixton Hill.
 Davies, R. D. Dudley Grammar School.
 Durant, R. G. Boys' High School, Bedminster.
 Fleming, J. Halstead Grammar School.
 Fry, A. Marlborough Collegiate S., Tnebrook.
 Garbutt, J. Yarm Grammar School.
 Gee, C. W. Collegiate School, Wigan.
 King, G. Selwyn House S., South Hampstead.
 Knowles, J. D. Cambridge House School, Wigan.
 Lovegrove, W. C. High Park Hall, Ryde.
 Metcalfe, B. B. 3 Belgrave Villas, Lee, S.E.
 Moore, W. Nonconform. Gram. S., Bp. Stortford.
 Nicklin, W. H. New Barnet College.
 Potter, S. B. Hoe Grammar School, Plymouth.
 Powell, F. H. The Salop School, Oswestry.
 Pye, F. University School, Hastings.
 Roberts, A. D. The Salop School, Oswestry.
 Rollings, S. R. The Collegiate S., Pembroke Dock.
 Stacey, W. Werneth High School, Oldham.
 Strickland, A. F. Montpelier School, Paignton.
 Willis, B. A. G. The Choir School, Wells Street, W.
 Yewdall, P. Woodhouse Grove S., Apperley Bdge.

Betts, H. J. Clarendon House School, Brighton.
 Corke, O. Bethany House School, Goudhurst.
 Curry, V. St. Mary's College, Woolhampton.
 Dehorter, G. St. Aloysius' College, Highgate.
 Dutton, W. A. Sandbach School, Cheshire.
 George, C. All Saints' School, Clifton, Bristol.
 Gibbens, E. Kent Coast College, Herne Bay.
 Giles, L. St. Mary's College, Woolhampton.
 Glaze, A. Coopers' Company's S., Bow Road, E.

Harries, T. A. Old College School, Carmarthen.
 Kirk, H. E. University School, Stroud Green.
 Lockwood, H. Woodstock Grammar School.
 Manpas, G. Fowey Grammar School.
 Metcalf, A. Sandwich School.
 Parry, J. R. Gram. & Collegiate S., Carnarvon.
 Pearson, H. Laurel Bank S., Higher Broughton.
 Richards, D. H. Oswestry Grammar School.
 Spicer, E. E. Private tuition.
 Taylor, F. C. W. Werneth Academy, Oldham.
 Thomas, J. R. The Academy, Llandilo.
 Wall, R. J. The Salop School, Oswestry.
 Watts, G. Newport Grammar S., Isle of Wight.
 Ward, E. W. Oswestry Grammar School.
 Welsby, G. Oxenford House, Jersey.
 Williams, W. R. O. Llandudno College.
 Wolferstan, S. H. P. Woodside House S., Sutton, Surrey.
 Woodhead, C. Yarm Grammar School.
 Wynne, E. W. Grammar School, Aberystwith.

Arnold, C. H. 5 South Pallant, Chichester.
 Blackroach, F. O. The College, Weymouth.
 Brearley, L. J. Quernmore House School, Bromley.
 Brown, D. F. Mary Street House School, Taunton.
 Buckley, J. St. George's College, Brampton.
 Dickenson, H. B. Almondbury Grammar School.
 Ferguson, L. C. St. George's College, Weybridge.
 Fowler, F. O. G. The School, Wicanton.
 Gleadow, W. H. Taplow Grammar School.
 Jewsbury, R. St. Philip's Grammar S., Edgbaston.
 Lloyd, G. W. Elloughton Mount, Brough, E. Yorks.
 Lockwood, W. Pannal Ash College, Harrogate.
 Lowthian, H. High School, Barnsley.
 Marsh, H. E. Grammar S., Market Harborough.
 Maudlen, A. W. Woodhouse Grove S., Apperley Bdge.
 Owen, J. Old College School, Carmarthen.
 Pettitt, F. E. Banham Grammar S., Attleboro'.
 Philpott, C. Wellington College, Salop.
 Pitt, W. J. Clyde House, Hereford.
 Pope, J. B. Watford Collegiate Schools.
 Thomas, R. Lyttleton Grammar S., Malvern.
 Trick, W. The Collegiate S., South Molton.
 Woodward, R. A. Grammar School, Altrincham.
 Wright, A. Werneth Academy, Oldham.

Acock, W. E. The Engadine, Torquay.
 Beckett, W. C. Whitchurch Grammar School.
 Brady, F. J. St. Philip's Grammar S., Edgbaston.
 Breckon, J. G. Yarm Grammar School.
 Cathie, C. G. Bowdon College, Cheshire.
 Channer, W. A. Carter House School, Deal.
 Clack, W. A. C. Montpelier School, Paignton.
 Daglish, H. Woodhouse Grove S., Apperley Bdge.
 Eastwood, W. High Park Hall, Ryde.
 Evans, J. H. Goonini's Ho. S., St. Agnes, Cornwall.
 Flinders, G. F. Deal College.
 Garratt, G. L. German & French Coll., Wandsworth.
 Higgs, W. G. Coopers' Company's S., Bow Road, E.
 Howells, H. The Commercial School, Ludlow.
 Hubble, A. W. Deal College.
 Kingston, G. Trafalgar House School, Winchester.
 Moore, H. F. Kent Coast College, Herne Bay.
 Rogers, H. N. Montrose College, Brixton Hill.
 Shuttleworth, J. H. Higher Grade School, Bacup.
 Smith, P. Bethany House School, Goudhurst.
 Stiles, E. Hall Gate School, Doncaster.
 Sulman, E. H. Tollington Park College, N.
 Williams, F. Newport Grammar S., Isle of Wight.

Barker, R. Hillside Lodge, Blackheath.
 Bickley, B. Oswestry Grammar School.
 Branton, F. W. The Hall School, Snuderland.
 Buxton, W. Hatton House S., Newark-on-Trent.
 Carpenter, F. The Commercial School, Ludlow.
 Collett, H. E. Private tuition.
 Davies, A. S. Lewisham Park School, S.E.
 Evans, T. Old College School, Carmarthen.
 Gracie, H. St. Mary's College, Woolhampton.
 Harapp, B. N. Collegiate School, Wakefield.
 Hoecker, C. German & French Coll., Wandsworth.
 Holman, C. L. Truro College.
 Huckvale, T. W. Maidenhead College.
 Lacey, H. G. 116 St. Owen Street, Hereford.
 Marriott, W. D. The Academy, York St., Wakefield.
 Martin, A. W. T. Oswestry Grammar School.
 McGregor, J. E. M. Cavendish House S., Hammersmith.
 Shaw, A. L. B. Almondbury Grammar School.
 Thomas, J. E. Higher Grade School, Bacup.
 Townend, J. Newport Grammar S., Isle of Wight.
 Van Zwanenberg, L. Great Ealing School, W.
 Veall, E. V. Modern School, Walthamstow.
 Ward, P. University School, Hastings.

Barnes, E. Clarendon House School, Norwich.
 Beswick, H. Werneth Academy, Oldham.
 Bosanquet, A. F. G. Trafalgar House S., Winchester.
 Brimelow, H. St. Bede's College, Manchester.
 Coles, H. High School, Barnsley.
 Conner, W. St. Bede's College, Manchester.
 Critchard, A. L. Stroud Green Grammar School, N.
 Durrant, C. Maidenhead College.
 Gillow, M. Kent Coast College, Herne Bay.
 Hall, J. G. The Hall School, Sunderland.
 Hickley, T. B. Private tuition.
 Hoecker, P. H. German & French Coll., Wandsworth.
 Jones, L. P. Marlborough Collegiate S., Tnebrook.
 Judd, W. V. Trafalgar House S., Winchester.
 Lowe, H. W. Oakfield School, Crouch End.
 Marshall, H. Cavendish House S., Hammersmith.
 Merry, E. St. Joseph's High School, Cardiff.
 Miller, F. Newcastle-on-Tyne Modern School.
 Muir, W. Taplow Grammar School.
 Robinson, F. St. James' College, Great Grimsby.
 Seager, G. W. Mansfield House S., Southport.
 Sippe, R. J. T. Montrose College, Brixton Hill.

BOYS, THIRD CLASS—Continued.

Somerville, T. A.	Sandbach School, Cheshire.	Dunning, S.	Truro College.	Bosustow, J.	Selhurst Park College, S.E.
Strickland, M. N.	Montpelier School, Paignton.	Evans, L. M.	Vermont College, Clapton.	Cullen, W.	Commercial & Gram.S., Herne Bay.
Tann, R. G.	South Hackney High School.	Gipprich, J.	St. Bede's College, Manchester.	Culverwell, C. N.	Dr. Morgan's School, Bridgwater.
Towle, E. T.	Elm Bank School, Nottingham.	Hince, F. A.	Wellington College, Salop.	Fulcher, H.	Oakfield School, Crouch End.
Ward, H.	Brandon Villa School, New Leeds.	Lloyd, W.	Old College School, Carmarthen.	Hodge, J. M.	38 Tavistock Place, Plymouth.
Whitehead, G. W.	Pannal Ash College, Harrogate.	Miles, C. L.	Guildford Lodge School, Lee, S.E.	Jew, H. P.	Independent College, Taunton.
Wilson, H. S.	Stroud Green Grammar School, N.	Oakley, A. J.	St. Martin's School, York.	Jones, T. T.	Grammar School, Aberystwith.
Wilson, J. T.	Archbishop Holgate's School, York.	Robertson, J. A.	The Hall School, Sunderland.	Newborn, C. R.	Cowley College, New Barnet.
		Stanhope, H. S.	Tanyralit School, Pontardawe.	Norman, C. H.	Taplow Grammar School.
Allan, W. H.	Dudley Grammar School.			O'Hare, S. J.	The Salop School, Oswestry.
Allwright, R. W.	Private tuition.	Bevan, A.	Newport Grammar S., Isle of Wight	Smith, G. V.	High School, Sutton, Surrey.
André, C.	North London High School, N.W.	Campbell, A.	Modern School, Walthamstow.	Ward, B. L.	Sandbach School, Cheshire.
Caney, F. H.	Tollington Park College, N.	Darmstatter, P. C.	Deal College.	White, J. A.	Quernmore House School, Bromley.
Carus, P.	St. Bede's College, Manchester.	Fentiman, H.	Dunheved College, Launceston.		
Cox, A. J.	Vermont College, Clapton.	Fletcher, W.	The High School, Blackpool.	Beek, J. H.	Elm Bank School, Nottingham.
Gibbins, G. P.	Kent Coast College, Herne Bay.	Gallewski, S.	The Hall School, Sunderland.	Benson, A. F.	Yarm Grammar School.
Gray, V. Van B.	Sandwich School.	Gilland, F. W.	Waterloo College, Liverpool.	Carlisle, G.	Vickery's, Southsea.
Hall, P. W.	Perin's Grammar School, Alresford.	Home, E.	Stanley House, Margate.	Critchard, F. W.	Stroud Green Grammar School, N.
Herron, C. W. R.	Seafeld Academy, Newcastle-on-T.	Pedrette, W. R.	Highbury Park School, N.	Edwards, D. L.	Bedford Grammar School.
Honfray, D. H. C.	Beverley House School, Barnes.	Prettejohn, T. B.	Mount Radford School, Exeter.	Garline, F. E.	Chesterfield Grammar School.
Jones, R. H.	Epworth College, Rhyl.	Rider, P. W.	Belmont House School, Lee, S.E.	Greenwood, T.	West Cliff School, Ramsgate.
Kern, L.	Taplow Grammar School.	Robinson, A. H.	Laugharne House School, Southsea.	Purves, W. S.	Woodstock Grammar School.
King, W. G.	West Worthing Preparatory School.	Wakeford, A. H.	Bethany House School, Goudhurst.	Sutton, H. W.	West Brighton High School.
Klean, C. D.	Ramsgate School.	Walker, B.	Fowey Grammar School.	Thomas, S. M. P.	Balham School.
Lees, J.	Taplow Grammar School.			Wessels, H. W. D.	West Brighton High School.
McBean, H. W.	The Commercial School, Ludlow.			Whidborne, J. H.	Private tuition.
Redford, G. F.	Northgate School, Winchester.	Allen, S. E.	The Philological School, Southsea.	Williams, S. D.	Old College School, Carmarthen.
Scott, J. P.	The Hall School, Sunderland.	Basebe, F. A.	The Grammar School, Willesden.		
Shawe, E. M.	Fulneck School, Leeds.	Bray, A. E.	Truro College.	Cornell, M. D.	Nonconform. Gram.S., Bp. Stortford
Small, A. J.	Lyttleton Grammar S., Malvern.	Cowell, E. B.	Durham Ho. S., Clapham Common.	Crofts, T. F.	Sandwich School.
Taylor, A. E.	Whitchurch Grammar School.	Field, K. D.	7 The Vineyard, Richmond, Surrey.	Donellan, F.	Oswestry Grammar School.
White, H.	Harringay Collegiate School, N.	Hodson, E.	St. Mary's College, Woolhampton.	Goderich, H.	The Salop School, Oswestry.
Wiskin, R.	Hillside Lodge, Blackheath.	Jackson, C. P.	Hastings Grammar School.	Gorill, J. F.	Chesterfield Grammar School.
Worth, G. A.	Witton Grammar S., Northwich.	Kemp, E. H.	Trafalgar House S., Winchester.	Hancox, T.	Bussage House, Stroud.
		McLerie, S.	Higher Grade School, Bacup.	Hughes, R. B.	Grammar School, Altrincham.
Appleton, J. H.	Paradise Square School, Sheffield.	Ball, G.	The High School, Blackpool.	Martin, C. A.	Modern School, Walthamstow.
Aucutt, G. R.	Mayall College, Herne Hill.	Charles, W. R.	The Salop School, Oswestry.	Rees, S.	Cardigan Grammar School.
Barlow, T. H.	St. Philip's Grammar S., Edgbaston	Cheverton, C. G.	Horsmonden School.	Willcox, W. M.	Edward VI. Gram. S., Wymondham.
Burchell, H. A.	Cavendish House S., Hammersmith	Clieve, J. H.	Heavitree Collegiate S., Exeter.		
Dewey, L.	St. John's College, Green Lanes, N.	Cornish, S. F.	Streatham College, S.W.		
Doolau, J.	St. Philip's Grammar S., Edgbaston	Goulding, B.	St. Aloysius' College, Highgate.		
Gibson, W. F.	Classical & Mathemat. S., Swaffham	Haselden, A. K.	Selwyn House S., S. Hampstead.		
Jones, H.	Wellington College, Salop.	Lenfestey, H. J. de Q.	The School, Wincanton.		
Kantrowitz, M.	The Hall School, Sunderland.	Loneragan, E. H.	St. James' School, Slough.		
Lear, A. J.	Grammar School, Steyning.	Nettel, G. F. A.	Thistleboon House S., Mumbles.		
Minns, T.	Taunton's Trade S., Southampton.	Parsons, H.	Kent Coast College, Herne Bay.		
Parkes, B. W.	Tollington Park College, N.	Pascoe, G. B.	Hastings Grammar School.		
Samuell, C. H.	Princes Rd. High School, Liverpool	Pritchard, H.	Taplow Grammar School.		
Shaw, B. H.	Maidenhead College.	Rennie, J. A.	New Barnet College.		
Stevens, F. G. B.	Deal College.	Spearing, C.	Elmhurst S., Kingston-on-Thames.		
Snowden, J.	Almondbury Grammar School.	Taylor, G. W.	Willow House College, Walsall.		
Thompson, J. B.	Lyttleton Grammar School.	Watson, W. W.	Grammar S., Market Harborough.		
Treacher, A. E.	Halstead Grammar School.	Webster, G.	The Choir School, Wells Street, W.		
Tyrell, O.	Taplow Grammar School.	Andrews-Bligh, L. P.	Carlton House School, Jersey.		
		Bailey, E. J.	Northgate School, Winchester.		

PASS LIST OF CANDIDATES FOR CERTIFICATES OF PROFICIENCY IN MERCANTILE SUBJECTS.

[The italics denote subjects in which Candidates attained Special Distinction.]

Bradley, C. T.	Epsom College.	Lowther, C. J.	sh. bk. St. Bede's College, Manchester.
Bullen, J.	Woodhouse Grove School, Apperley Bridge.	Myers, C. F.	Woodhouse Grove School, Apperley Bridge.
Butcher, W. J.	St. Bede's College, Manchester.	Penn, W. A.	Woodhouse Grove School, Apperley Bridge.
Connery, D.	sh. St. Bede's College, Manchester.	Ruddock, J. D.	Woodhouse Grove School, Apperley Bridge.
Forrest, H. J.	St. Bede's College, Manchester.	Thomson, W.	Grammar School, Ripon.
Lloyd, H.	Epsom College.	Wood, A. M.	Private tuition.
Loughnan, G. E.	sh. Pellew House, Grove Park, S.E.		

GENERAL CLASS LIST—GIRLS.

(For list of abbreviations, see page 352.)

FIRST CLASS.—HONOURS DIVISION.

Dannatt, E. C. H.	The College, Huddersfield.
s. ger. nat. p.	
Smith, E.	Red Maids' School, Bristol.
s. a. al. tr. d. mu.	
Sedgwick, V. M. H.	The College, Huddersfield.
s. a. f. ger.	
Lyne, A. E.	s. e. f. Dunheved College, Launceston.
Donaldson, M.	s. f. Merton College, Croydon.
Fentiman, B. C.	s. Dunheved College, Launceston.
Landells, H. J.	Stroud Green High School, N.
s. g. bk. nat.	
Wood, L. M.	f. l. gr. sd. Cheltenham Public School for Girls.
Denly, M. E.	s. bk. d. Brentford Collegiate School.
Hammerton, J.	Merton College, Croydon.
s. f. ger. mu.	
Lee, M.	s. d. Merton College, Croydon.
McMullan, A. M.	Caldecote Towers, Bushey Heath.
f. ger. d.	
Sutton, E. P.	s. g. d. Private tuition.
Loseby, U.	s. f. d. mu. Private tuition.
Fenwick, E.	s. f. d. mu. Merton College, Croydon.
Kinder, E.	s. The College, Huddersfield.
Waller, A.	s. f. Merton College, Croydon.
Woolcott, A.	f. ger. Merton College, Croydon.
Carlyle, E. A.	s. d. Penrhos College, Colwyn Bay.
Pitler, J.	d. William Gibbs' School, Faversham.

FIRST CLASS.—PASS DIVISION.

Lee, F. E.	s. nat. The College, Brampton, Carlisle.
Smith, J.	d. The College, Huddersfield.
Stainforth, F. E.	bk. Stroud Green High School, N.
Mortimer, C.	s. d. Caldecote Towers, Bushey Heath.
Godby, A. M.	f. d. mu. Ladies' College, Newton Abbot.
Hincks, F. E.	f. d. Clyde Villa School, West Hampstead.
Cull, M. E.	f. d. Manor Mount School, Forest Hill.
Welsford, M. F.	E. e. The High School, Waltham Cross.
Prynn, M.	f. d. Private tuition.
Kirkup, B.	The Grange, Sunderland.
Pangbourne, R.	7 Hyde Terrace, Tollington Park.
Leach, E.	d. Fairfield College, Exmouth.
Smith, D.	s. East Southsea Collegiate School.
Bunyard, E. B.	Stroud Green High School, N.
Stark, N.	s. Merton College, Croydon.
Milnes, A. E.	The College, Huddersfield.
Shilson, E. B.	d. Fairfield College, Exmouth.
Wilkins, C.	gr. Cheltenham Public School for Girls.
Williams, B.	s. d. Caldecote Towers, Bushey Heath.
Phillips, E. M.	nat. d. Rushmore House, Kidderminster.
Watts, E. W. T.	Penrhos College, Colwyn Bay.
Butterworth, E. M.	Penrhos College, Colwyn Bay.
Ormond, F.	Merton College, Croydon.
Brandenburg, M. S.	Manor Mount School, Forest Hill.
f. ger. d.	
Anstee, B. M.	s. d. Luton High School for Girls.
Myhill, M. G.	f. Wolverton House, Broadstairs.
Dyson, G. E.	mu. The Old Grammar School, Thame.
Woods, A. P. W.	f. nat. d. Eng. High S., Pera, Constantinople.
Cross, E. I.	The Vicarage S., Clapham Common.
Edwards, M.	e. William Gibbs' School, Faversham.
Blake, L.	Caldecote Towers, Bushey Heath.
Breton, C. T.	d. Southampton Girls' College.
Rowley, E. M.	f. Private tuition.
Barnes, G. W.	d. Pond House School, Lower Clapton.
Chisholm, C.	Moss House S., Whitefield, M'chester.
Benias, E. A.	Bethany House School, Goudhurst.
Jefferis, N. T.	ger. d. Milton Mount College, Gravesend.
Biddlecombe, G. A.	Brentford Collegiate School.
Spratly, I. L.	Anglesea Villa S., Walton, L'pool.
Hughes, A.	Caldecote Towers, Bushey Heath.
Davis, M. H.	f. ger. Manor Mount School, Forest Hill.
Fowke, F. C.	Stoneygate College, Leicester.
Kent, F.	The Ladies' College, Goudhurst.
Bacon, A. M.	f. Cashibury House, Southend.
Ockleston, M. T.	Brondesbury High School, N.W.
Allwork, E. C. M.	Channing House School, Highgate.
Butlin, W.	7 Hyde Terrace, Tollington Park.
Benias, E. E.	Bethany House School, Goudhurst.
Lyons, U.	Cheltenham Public School for Girls.
Reay, N. G.	Caldecote Towers, Bushey Heath.
Charlton, J. R.	Private tuition.

GIRLS, SECOND CLASS—Continued.

SECOND CLASS.—1ST DIVISION.

Meek, S. J. *p.* Penrhos College, Colwyn Bay.
 Mackey, M. B. Gordonville Ladies' S., Coleraine.
 Woolcott, E. Merton College, Croydon.
 Biggs, L. E. Creswell House S., Westgate-on-Sea.
 Lavington, F. Merton College, Croydon.
 Smith, M. M. *f. ger. d.* Clyde Villa S., West Hampstead.
 Gorkiewitz, E. A. *f.* Eng. High S., Pera, Constantinople.
 Waller, R. Merton College, Croydon.
 Leeming, M. F. Stroud Green High School, N.
 Dion, G. *f.* Merton College, Croydon.
 Landells, M. E. Stroud Green High School, N.
 Sutton, E. K. *f.* The Old Grammar School, Thame.
 Jackson, F. E. *p.* Stroud Green High School, N.
 Underwood, K. 7 Hyde Terrace, Tollington Park.
 Osborn, H. M. Penrhos College, Colwyn Bay.
 Dixon, M. Merton College, Croydon.
 Sorel, M. A. M. *f.* Tooting High School for Girls.
 Bridger, A. E. Brownhills House, Southampton.
 Thornley, C. M. *d.* Abberley House, Bromsgrove.
 Smith, M. *f.* Ryeford Hall, Stonehouse.
 Tildesley, M. *d.* Penrhos College, Colwyn Bay.
 Chadwick, M. L. *d.* Clyde Villa S., West Hampstead.
 Jones, M. E. A. *d.* Penrhos College, Colwyn Bay.
 Park, W. Merton College, Croydon.
 Sones, R. B. *d. mu.* The Vicarage S., Clapham Common.
 Burr, I. Merton College, Croydon.
 Wills, E. L. Eng. High S., Pera, Constantinople.
 Roebuck, G. Penrhos College, Colwyn Bay.
 Shortridge, A. *d.* Tinwald House, Rock Ferry.
 Porter, E. A. Stroud Green High School, N.
 Calderara, K. M. Stroud Green High School, N.
 Spencer, N. *d.* Penrhos College, Colwyn Bay.
 Peacock, J. A. Caldecote Towers, Bushey Heath.
 Gibbs, E. Penrhos College, Colwyn Bay.
 Gibson, M. J. The College, Huddersfield.
 Harpur, B. Chiswick High School for Girls.
 Miller, J. *d.* Emwell House School, Warminster.
 Bowman, D. Nevill College, Tunbridge Wells.
 Hodges, M. E. The Ladies' College, Goudhurst.
 Oldrey, A. N. Princess Gardens School, Belfast.
 Spencer, M. C. Private tuition.
 Taylor, R. F. *s.* Westlands, Basingstoke.
 Wills, J. *d.* 7 Hyde Terrace, Tollington Park.
 Bell, M. L. Stroud Green High School, N.
 Burras, E. The College, Huddersfield.
 Hardie, M. *s. a.* Southolme High S., Manchester.
 Morgan, A. M. The Ladies' College, Goudhurst.
 Fagg, B. William Gibbs' School, Faversham.
 Murphy, I. W. Caldecote Towers, Bushey Heath.
 Adnams, K. Merton College, Croydon.
 Greenwood, G. Glebe Place S., Stoke Newington.
 Mortimer, E. M. *d.* Caldecote Towers, Bushey Heath.
 Pearce, C. Merton College, Croydon.
 Simson, H. *d.* Merton College, Croydon.
 Clements, K. R. Rye Collegiate School, Sussex.
 Oldfield, S. H. The College, Huddersfield.
 Couldery, M. L. Rye Collegiate School, Sussex.
 Matthews, C. M. *d.* Caldecote Towers, Bushey Heath.
 Symonds, E. P. *d.* Brentford Collegiate School.
 Richardson, E. Oxford Lodge School, Banbury.
 Sykes, F. Fartown Grammar S., Huddersfield.
 Aitken, M. Penrhos College, Colwyn Bay.
 Hawes, M. V. *d.* Finchley High School for Girls.
 Burnand, E. *d.* 19 St. Aubyn's, Brighton.
 Greenwood, E. I. Penrhos College, Colwyn Bay.
 Murison, M. I. Berry Villa, Silvertown, Cullompton.
 Young, S. C. Caldecote Towers, Bushey Heath.
 Anderson, E. J. Brynderwyn Ladies' S., Coleraine.
 Boullin, L. G. Guildown Coll. S., Tunbridge Wells.
 Buchanan, E. M. The Grange, Buxton.
 Chapman, E. E. *d.* Llynsted Ladies' S., Sittingbourne.
 Clark, L. Fartown Grammar S., Huddersfield.
 Hosegood, R. Merton College, Croydon.
 Barton, J. M. B. Girls' Collegiate S., Carmarthen.
 Rand, N. E. The Vicarage S., Clapham Common.
 Beal, L. Eton House School, Sheffield.
 Grant, D. M. Finsbury College, Camden Road, N.
 Owen, N. M. *d.* Blencathra, Ryhl.
 Skelton, F. M. Pemberton College, Highgate Hill.
 Haughton, E. A. Ladies' College, St. Anne's-on-Sea.
 Hunter, H. *d.* Merton College, Croydon.
 Lunn, A. L. Penrhos College, Colwyn Bay.
 Morgan, E. *d.* 331 Crookesmoor Road, Sheffield.
 Walters, C. G. Ladies' Collegiate S., Cheltenham.
 Cardozo, V. *mu.* Convent S., Highgate Road, N.W.
 Jackson, H. Private tuition.
 Ley, M. *2nd* Abberley House, Bromsgrove.
 Young, J. H. Mountside High School, Hastings.
 Cooke, B. E. *d.* Wintersdorf, Southport.
 Crockett, E. F. H. All Hallows, Ditchingham.
 Dawson, B. William Gibbs' School, Faversham.
 Harrington, E. M. Masbro' House, Brook Green, W.
 Peacock, E. M. Guildown Coll. S., Tunbridge Wells.
 Shawyer, M. Merton College, Croydon.
 Beunett, E. *d.* Merton College, Croydon.
 Cockroft, E. N. M. *d.* Betley Ladies' College, Crewe.
 Hollowell, S. 3 Grove Terrace, Rochdale.
 Symington, B. W. Caldecote Towers, Bushey Heath.
 Whiting, J. *d.* William Gibbs' School, Faversham.
 Matthews, P. M. Royal Naval School, Twickenham.
 Sedgwick, H. M. H. The College, Huddersfield.
 Aitken, M. Priory House, York.
 De La Mare, H. A. Newnham House, Sherborne.
 Lenton, M. Trinity House, Halstead.
 Mariano, A. *f.* Eng. High S., Pera, Constantinople.
 Middleton, S. A. Manor Mount School, Forest Hill.
 Broad, G. West House High S., Forest Hill, S.E.
 Daniels, E. L. Ten Mile Villa, Chigwell.
 Fenn, E. Merton College, Croydon.

Kay, A. Beech House School, Eccles.
 Stewart, M. E. *d.* West House High S., Forest Hill, S.E.
 Jackson, F. A. Stroud Green High School, N.
 Robinson, D. O. Girls' High School, Oxford.
 Rootes, H. M. *s.* Brampton House, Swaffham.
 Bradshaw, M. L. *d.* Penrhos College, Colwyn Bay.
 Burnett, E. Olinda, New Brighton.
 Cain, R. *d.* 37 King Street, Luton.
 Douglas, E. *d.* Camperdown, West Norwood.
 Graham, K. Eaton Park College, S. Hampstead.
 Stott, M. E. The College, Huddersfield.
 Crouch, R. E. Steyne School, Worthing.
 Sheldon, E. M. *d.* High School, Queen's Coll., B'ham.
 Stubbs, M. A. Royal Naval School, Twickenham.
 Brown, E. E. Abney Park Coll., Stamford Hill, N.
 Buchan, A. J. Brynderwyn Ladies' S., Coleraine.
 Chisholm, A. T. Moss House S., Whitefield, M'chester.
 Mills, E. Emwell House School, Warminster.
 Dugdall, A. B. Brixham High School, S. Devon.
 Sears, F. C. *d.* The Ladies' College, Goudhurst.
 Ward, F. Ladies' Coll., Ebor Mt., Knaresbro'.
 Bates, V. E. *d.* Ferne Park High School, Hornsey.
 Brown, A. E. West Bank School, Sheffield.
 Bruce, E. M. Royal Naval School, Twickenham.
 Gibson, D. Priory House, York.
 Hughlings, E. M. The Vicarage S., Clapham Common.
 May, L. E. *bk.* Wolverton House, Broadstairs.
 Popple, A. K. Finchley High School for Girls.
 Porter, E. Merton College, Croydon.
 Reynolds, L. M. *d.* West House High S., Forest Hill, S.E.
 Rudd, I. W. Broomfield High S., Manchester.
 Terrey, E. B. Carlton House, Southampton.
 Baker, E. *d.* Camperdown, West Norwood.
 Owen, K. M. Varteg House School, Penarth.
 Preedy, D. I. Brownhills House, Southampton.
 Thomas, N. Marlowes Coll., Hemel Hempstead.
 Whittingham, L. A. Fairfield House, East Dereham.
 Cross, M. S. Chiswick High School for Girls.
 Gyllencrutz, K. *d.* Blencathra, Ryhl.
 Ingram, M. *d.* Newnham House, Sherborne.
 Little, N. D. 2 Ravensworth Terrace, Durham.
 Martin, J. A. M. Victoria College, Belfast.
 Piper, M. *d.* 7 Hyde Terrace, Tollington Park.
 Pollard, G. E. *d.* Private tuition.
 Sherbourne, L. Priory House, York.
 Chandler, E. 7 Hyde Terrace, Tollington Park.
 Glazebrook, M. S. *d.* King's Mount, Newark-on-Trent.
 Hobday, N. William Gibbs' School, Faversham.
 Kempster, A. Grovely College, Bournemouth.
 Lauder, M. M. 21 Bear Street, Barnstaple.
 Roberts, E. M. Norwood House, Liverpool.
 Smith, B. Merton College, Croydon.
 Carlyle, F. Penrhos College, Colwyn Bay.
 Edwards, M. A. J. *d.* Finchley High School for Girls.
 Parlett, L. St. James' Collegiate School, Jersey.
 Pearson, E. *d.* St. Mary's School, Whitechurch.
 Swarder, A. William Gibbs' School, Faversham.
 Brassey, K. E. *d.* Caldecote Towers, Bushey Heath.
 Bredin, N. Brynderwyn Ladies' S., Coleraine.
 Hartley, A. M. Beech House School, Eccles.
 Ingram, B. Merton College, Croydon.
 Jones, R. C. The Grange, Marple, Stockport.
 Smithson, C. A. Private tuition.
 Sproat, M. *d.* Thornbeck House, Darlington.
 Sutcliffe, A. Caldecote Towers, Bushey Heath.
 Bowker, E. Moss House S., Whitefield, M'chester.
 Budibent, E. Nottingham Ladies' College.
 Day, L. M. Maidenhead High School.
 Hailey, F. M. Buckingham Ho., Ravenscrt. Pk. W.
 Roope, I. L. Private tuition.
 Rumsey, O. Alderhurst, Sale.
 Wills, M. E. South Croydon College.
 Attlee, D. J. *d.* Private tuition.
 Staues, L. Greystone, Yeovil.
 Surr, A. J. *d.* Southolme High School, Manchester.
 Brown, M. C. Southolme High School, Manchester.
 Leatham, M. Thanet Hall, Margate.
 Sherriff, J. L. D. Pond House School, Lower Clapton.
 Thomas, E. B. Forest Hill Middle Class School, S.E.
 Goldie, M. 19 St. Aubyn's, Brighton.
 Ellis, E. M. Westbourne House, Chiswick.
 Greaves, E. Wintersdorf, Southport.
 Hooper, E. M. J. *d.* The Elms, Coventry Pk., Streatham.
 Porcher, F. St. Maur School, Chepstow.
 Westwood, C. A. West House High S., Forest Hill, S.E.
 Crowther, F. P. Norwood College, S.E.
 Fenton, K. G. The Elms, Coventry Pk., Streatham.
 Harding, F. J. Hillsleigh, Southampton.
 Milsted, M. I. *d.* The Elms, Coventry Pk., Streatham.
 Rawley, M. A. Eversley High School, Eastbourne.
 Robinson, L. Thornbeck House, Darlington.
 Seymour, L. K. Grovely College, Bournemouth.
 Waller, M. I. St. Catherine's School, Broxbourne.
 Bell, E. M. Private tuition.
 Fortescue, B. G. Stroud Green High School, N.
 Harris, L. E. J. Woodside Ladies' School, Red Hill.
 Knox, J. B. Victoria College, Belfast.
 Reeves, L. C. Park Gate House, Hull.
 Tassell, M. Nantly House College, Hounslow.

SECOND CLASS.—2ND DIVISION.

Garratt, N. Oakfield School, Handsworth.
 Hill, E. Priory House, York.
 Monkhouse, M. Camperdown, West Norwood.
 Newall, A. Ladies' College, St. Anne's-on-Sea.
 Rowlands, M. South Bristol Girls' High School.
 Pickering, F. E. West House High S., Forest Hill, S.E.
 Spencer, A. Penrhos College, Colwyn Bay.
 Tucker, G. E. R. Greta Bank, Mumbles.

Mansbridge, G. Beechcroft College, Richmond Hill.
 Patten, K. E. Stroud Green High School, N.
 Tregaskes, A. St. Thomas' College, Launceston.
 Vickerstaff, A. M. Emwell House School, Warminster.
 Fitch, E. K. Trinity House, Halstead.
 Leigh, E. Girls' High School, Oxford.
 Searle, C. R. Dunmarklyn, Weston-super-Mare.
 Atkey, O. M. *d.* Caldecote Towers, Bushey Heath.
 Carpenter, A. Cheltenham Public S. for Girls.
 Crofts, C. S. Queen's College, Wood Green, N.
 Day, O. E. Girls' High School, Oxford.
 Fox, E. E. Dundonald, Bournemouth.
 Kent, A. M. The Elms, Coventry Pk., Streatham.
 King, M. Cheltenham Public S. for Girls.
 Whitehead, J. A. St. Agnes' College, Moseley.
 Carter, A. Mornington House, W. Kensington.
 Cooper, I. D. Gatefield College, Lewisham.
 Davis, E. The Hollies, Birmingham.
 Penny, E. B. Rushmore House, Kidderminster.
 Pitts-Tucker, A. B. 21 Bear Street, Barnstaple.
 Shingley, J. M. Wimborne Minster Ladies' College.
 Bastable, A. F. The Ladies' College, Goudhurst.
 Bennett, E. F. Merchiston, Eastbourne.
 Bertram, E. D. *d.* Kensington High School, S.W.
 Buck, E. K. Thanet Hall, Margate.
 Foden, M. Girls' Collegiate S., Macclesfield.
 Green, L. L. The Laurels, Rugby.
 Nattle, G. A. The Park School, Yeovil.
 Willis, P. F. Wimborne Minster Ladies' College.
 Adam, N. Thornfield, Bowdon.
 Edwards, E. C. G. *d.* Salisbury House, Littlehampton.
 Heap, K. H. Wintersdorf, Southport.
 Muir, J. P. Private tuition.
 Anthony, A. M. Collegiate School, Belper.
 Boon, E. F. Gothic House, Aylsham.
 Campbell, A. *d.* Selborne House, Gateshead.
 Cleverton, M. V. Brixham High School, S. Devon.
 Dockray, M. Riversdale, Boston Spa.
 Mullins, M. M. Havelock House School, Sonthsea.
 Woodhead, E. A. Penrhos College, Colwyn Bay.
 Bombroffe, L. A. *d.* King's Mount, Newark-on-Trent.
 Brander, G. Camperdown, West Norwood.
 Butcher, E. K. West Kensington High School.
 Edney, D. I. Cambridge House, Chichester.
 Inggs, A. St. Olave's School, Taunton.
 David, H. St. Audries, Penarth.
 Haslam, A. C. D. Finchley High School for Girls.
 Clark, E. M. Holmcroft, Bromley, Kent.
 Drake, M. Launceston Girls' High School.
 Giannopoulos, I. G. *f.* Eng. High S., Pera, Constantinople.
 Kingston, M. *d.* Belgrave House, Wandsworth Com.
 Klasen-Brown, E. M. Hurst Leigh, Southampton.
 Lunt, O. Castelnau, Eastbourne.
 Parker, F. E. Caldecote Towers, Bushey Heath.
 Percival, C. Portland Terrace School, Jersey.
 Ruttle, M. I. *d.* Broad Oak Hall, Accrington.
 Baker, A. D. Brighton House, Edgbaston.
 Cleverdon, F. Fairfield College, Exmouth.
 Lewin, J. St. Mary's School, Bungay.
 Morrell, E. R. Inverness House S., Thornton Heath.
 Albery, M. Leylands, Stockwell Road, S.W.
 Burgess, A. *d.* Licensed Victuallers' School, S.E.
 Credland, A. Eaglesfield School, Hr. Broughton.
 Herbert, F. Eagle College, Hornsey.
 Kerby, L. K. Brownhills House, Southampton.
 Still, E. H. *d.* Emwell House School, Warminster.
 Adames, W. M. Hillcote, Fareham, Hants.
 Greaves, A. L. Wintersdorf, Southport.
 Henderson-Roe, M. L. Souigny, Bournemouth.
 Moss, F. L. Ferne Park High School, Hornsey.
 Norman, L. Cambridge House, Chichester.
 Oldroyd, A. H. Claremont House, Sunderland.
 Phillips, I. *d.* St. John's Park House S., Highgate.
 Taggart, E. B. All Hallows, Ditchingham.
 Wood, L. 12 Reginald Terrace, Leeds.
 Marshall, L. Portland Terrace School, Jersey.
 Storey, E. M. Tyrwhitt College, Brockley.
 Barfoot, M. D. West Green College, Tottenham.
 Bullock, E. I. Elgin College, Maida Vale.
 Merson, K. P. 9 Barnstaple Street, South Molton.
 Roberts, G. 7 Hyde Terrace, Tollington Park.
 Vere, A. G. Eng. High S., Pera, Constantinople.
 Austin, A. N. Blenheim, Bournemouth.
 Herbert, E. M. South Bristol Girls' High School.
 Karr, E. C. Scarisbrick House S., Southport.
 Moss, C. E. Elm House School, Ealing Dean.
 Praetorius, S. E. R. Praetoria School, Folkestone.
 Thorburn, A. Convent School, Loughborough.
 Welsh, C. L. M. Victoria House S., Tean, Stoke-on-T.
 Aust, M. 9 Kingsgate Street, Winchester.
 Darlington, A. J. *d.* 31 Brigstock Road, Thornton Heath.
 Green, E. J. Finchley High School for Girls.
 McKeague, C. M. Victoria College, Belfast.
 Permain, B. M. Caldecote Towers, Bushey Heath.
 Appleton, E. S. Clarendon Coll. S., Clifton, Bristol.
 Carter, H. M. 31 Brigstock Road, Thornton Heath.
 Harding, B. Rushford House School, Longsight.
 Silvester, G. E. The Hawthorns, Ealing Common.
 Sims, C. M. Girton House, Yeovil.
 Roper, A. B. Devon House School, Exeter.
 Baldwin, A. M. Dresden House, Evesham.
 Harbison, E. Victoria College, Belfast.
 Keech, R. M. Polytechnic Girls' School, W.
 Laws, F. M. Melbourne House College, Clapton.
 Moss, E. *d.* Merton College, Croydon.
 Randall, N. M. East Finchley High School.
 Blackhurst, E. Eagle College, Hornsey.
 Carver, G. L. Canbray House, Cheltenham.

GIRLS, SECOND CLASS.—Continued.

- Jones, E. J. Abney Pk. Coll., Stamford Hill, N.
 Morley, M. E. High School for Girls, Stockport.
 Stubbsfield, M. Rokeby Lodge School, Lee, S.E.
 Topham, C. Eagle Bank, Southport.
 Lawrence, M. Cheltenham Public S. for Girls.
 Oldham, N. Grove House, Heaton Chapel.
 Symes, C. d. The Park School, Yeovil.
 Thomas, E. M. Forest Hill Middle Class S., S.E.
 Carnell, A. M. St. John's College, Brixton.
 Nettleton, E. G. L. Royal Naval School, Twickenham.
 Riches, E. d. Lynsted Ladies' S., Sittingbourne.
 James, B. A. Royal Naval School, Twickenham.
 Leggett, M. Eagle College, Hornsey.
 Marmion, G. E. R. Eton Park College, S. Hampstead.
 Marshall, H. Riversdale, Boston Spa.
 Pate, A. M. Finchley High School for Girls.
 Schick, M. Moravian Ladies' School, Fulneck.
 Lefroy, M. G. d. Salisbury House, Littlehampton.
 Parsons, B. M. Stoke Newington Rd. High School.
 Rapson, F. St. Mary's School, Bungay.
 Vandervell, J. Private tuition.
 Booth, F. H. Clarendon Coll. S., Clifton, Bristol.
 Gilbert, A. M. Betley Ladies' College, Crewe.
 Graham, M. E. Brynderwyn Ladies' S., Coleraine.
 Hughes, E. Westbourne House, Chiswick.
 Middleton, D. F. C. Fairfield College, Exmouth.
 Rollinson, F. Rushmore House, Kidderminster.
 Wollaston, M. M. St. Agnes' College, Moseley.
 Bohers, E. L. Westbourne House, Chiswick.
 Edmunds, M. Leyton House, Bristol.
 Kitching, G. A. d. West Enfield High School.
 Pugh, B. A. Elm House School, Ealing Dean.
 Winter, E. M. The College, Nightingale Lane, S.W.
 Brown, J. Grovely College, Bournemouth.
 Edmunds, A. Leyton House, Bristol.
 Pike, M. Z. The Elms, Coventry Pk., Streatham.
 Scarlett, F. Eton Park College, S. Hampstead.
 Toy, M. R. Middle Class S., Littlehampton.
 Cole, U. L. Trinity House, Halstead.
 Cowderoy, A. A. 1 Marlboro' Place, Brighton.
 Romeril, M. F. Zelzah House School, St. Helier's.
 Sangster, H. The Elms, Coventry Pk., Streatham.
 Thomas, L. Cumberland House, Acock's Green.

SECOND CLASS.—3RD DIVISION.

- Cash, G. J. The Ladies' College, Goudhurst.
 Dent, L. E. Kensington House School, York.
 Knott, K. Wolverton House, Broadstairs.
 Martin, E. Convent School, Highgate Rd., N.W.
 Thomas, V. M. Millburn House S., Forest Hill, S.E.
 Wyatt-Smith, M. H. Buckingham Ho., Ravensert. Pk., W.
 Brown, B. Parkfield College, High Barnet.
 Fawcett, J. Private tuition.
 Carruthers, H. W. The Elms, Coventry Pk., Streatham.
 Morris, M. Victoria College, Belfast.
 Robeson, M. P. 48 Hall Gate, Doncaster.
 Brannon, A. Eagle College, Hornsey.
 Dickinson, S. Riversdale, Boston Spa.
 Flint, M. A. 12 Ellenborough Cres., Weston-s.-M.
 Nicholls, H. Caldecote Towers, Bushey Heath.
 Stonehouse, E. Eastholme, Cottingham, Hull.
 Adams, D. The Beeches, Wolverhampton.
 Bridgman, L. 9 Barnstaple Street, South Molton.
 Grossmith, C. High Street College, Petersfield.
 Loveys, A. L. Trefreock, Endillon, Wadebridge.
 Mountford, E. A. The King's High School, Warwick.
 Middlemiss, Z. H. The King's High School, Warwick.
 Orton, D. M. Caldecote Towers, Bushey Heath.
 Peat, M. A. Beechcroft College, Richmond Hill.
 Wilford, A. d. Riversdale, Boston Spa.
 Dickson, M. Millburn House S., Forest Hill, S.E.
 Martin, M. E. Royal Naval School, Twickenham.
 Cross, H. S. Buckingham Ho., Ravensert. Pk., W.
 Gouldsmith, M. Forest Hill Middle Class School, S.E.
 Swinstead, H. R. Abney Pk. College, Stamford Hill, N.
 Carew, N. Finsbury College, Camden Road, N.
 Godlonton, E. Finchley High School for Girls.
 Hardy, D. I. B. High School, Queen's Coll., B'ham.
 Houghton, F. Birklands, Holland Pk. Gardens, W.
 Primrose, E. Fairfield House, East Dereham.
 Tobias, B. A. 47 Elgin Avenue, W.
 Atkinson, L. E. Laurel Bank, Forest Gate.
 Hancock, S. H. Glebe Place S., Stoke Newington.
 Farrar, E. W. Moss House S., Whitefield, Manchester.
 Hemmington, E. St. Agnes' College, Moseley.
 Nicholls, I. Ebenezer House School, Bristol.
 Watson, F. A. Arnold House School, Leicester.
 Boston, F. E. Fairfield House, Croydon.
 Verdin, R. A. Licensed Victuallers' School, S.E.
 Wright, M. L. The High School, Altrincham.
 Allan, J. Moss House S., Whitefield, Manchester.
 Baker, D. M. Trinity House, Halstead.
 Hoadley, I. M. Avenue Villa, Eastbourne.
 Lindfield, G. Rokeby Lodge School, Lee, S.E.
 Kidger, E. M. Nottingham Ladies' College.
 Mayfield, F. E. West Green College, Tottenham.
 Riddel, H. Norwood College, Withington.
 Watt, E. Betley Ladies' College, Crewe.
 Amato, M. V. Elm House School, Ealing Dean.
 Harper, M. E. 21 Bear Street, Barnstaple.
 Jones, C. L. Private tuition.
 Jordan, E. M. Brownhills House, Southampton.
 Pratt, L. L. Grovely College, Bournemouth.
 Rees, H. G. Inverness House S., Thornton Heath.
 Chapman, G. R. Great Ealing School.
 Leonard, M. W. Royal Naval School, Twickenham.
 Potter, B. F. West Enfield High School.
 Brown, A. G. Glebe Place S., Stoke Newington.
 London, R. Clarendon College, Plymouth.

- Hawking, F. Wintersdorf, Southport.
 Spitta, M. F. Private tuition.
 Wherrie, F. K. E. Ladies' Collegiate School, Belfast.
 Whitmore, H. Teddington Coll., Up. Teddington.
 Spitta, E. M. Private tuition.
 Bell, A. G. Somerville House, Newcastle-on-T.
 Williams, L. E. Elgin College, Maida Vale.
 Cottew, E. M. Cheltenham Public School for Girls.
 Freeman, E. K. Private tuition.
 Love, E. Brynderwyn Ladies' S., Coleraine.
 Wilson, M. A. English Day School, Belfast.

THIRD CLASS.—1ST DIVISION.

- Holland, E. F. Maidenhead High School.
 Varley, M. The College, Huddersfield.
 Power, E. Convent S., Highgate Road, N.W.
 Whitby, D. d. Clyde Villa S., West Hampstead.
 Young, F. M. The Grange, Sunderland.
 Dixon, W. William Gibbs' School, Faversham.
 Milestone, E. S. Private tuition.
 Howell, C. A. Clarendon Coll. School, Bristol.
 Tritton, B. William Gibbs' School, Faversham.
 Stulz, E. ger. St. Ursula's Convent, Oxford.
 Wood, E. F. d. Stroud Green High School, N.
 D'Arcy, E. R. Ashelhurst Pk. Coll. S., Shepherd's B.
 Pritchard, F. Merton College, Croydon.
 Ritchie, A. M. Thornbeck House, Darlington.
 Shaw, E. d. Abbeyfield Mount, Sheffield.
 Brassey, M. C. d. Caldecote Towers, Bushey Heath.
 Brown, E. E. d. Royal Naval School, Twickenham.
 Sugden, F. The College, Huddersfield.
 Minter, F. William Gibbs' School, Faversham.
 Powell, E. M. Private tuition.
 Alcock, F. L. Queen Elizabeth's Gram. S., Barnet.
 Portway, D. S. Holmeroft, Bromley, Kent.
 Vicary, M. M. d. Ladies' College, Newton Abbot.
 Clifton, E. M. The College, Brondesbury, N.W.
 Hardiing, E. M. d. West House High S., Forest Hill, S.E.
 MacMorland, M. E. d. Wintersdorf, Southport.
 Nuttall, E. M. Caldecote Towers, Bushey Heath.
 Read, A. M. d. Elson House, Leytonstone.
 Craig, F. E. d. Field House Coll., Heaton Chapel.
 Clifton, E. d. 8 West Cliff, Dawlish.
 Parker, G. E. The Ladies' College, Goudhurst.
 Peel, N. d. The College, Huddersfield.
 Farnham, A. William Gibbs' School, Faversham.
 Minee, E. M. Luton High School for Girls.
 Rothery, F. The College, Huddersfield.
 Houlson, M. E. Southolme High S., Manchester.
 Inglis, M. B. Caldecote Towers, Bushey Heath.
 Ordish, C. M. High School, Bexhill-on-Sea.
 Tibbells, J. H. Bootle High School for Girls.
 Dawson, C. P. Private tuition.
 Fox, A. Stroud Green High School, N.
 Smith, F. d. Penrhos College, Colwyn Bay.
 Yates, F. P. Victoria College, Belfast.
 Inman, M. d. Clyde Villa S., West Hampstead.
 Hatch, B. M. Manor Mount School, Forest Hill.
 Parker, M. J. Penrhos College, Colwyn Bay.
 Copus, M. E. Stroud Green High School, N.
 Curson, E. A. Hopefield House, Norwich.
 Jeffs, E. F. Brentford Collegiate School.
 Mears, A. C. The Old Grammar School, Thame.
 Mellroy, M. High S., Queen's Coll., Birmingham.
 Robinson, A. L. S. Penrhos College, Colwyn Bay.
 Hutchinson, L. M. Marlborough College, Exeter.
 Howe, E. M. Stroud Green High School, N.
 Johnson, E. R. Roccastruna, Bexhill-on-Sea.
 Moore, O. K. Elson House, Leytonstone.
 Phillips, R. H. Caldecote Towers, Bushey Heath.
 Smith, E. Dresden House, Evesham.
 Crowther, H. M. Oak Hill School, Huddersfield.
 Denner, F. M. Reckleford Cross School, Yeovil.
 Lawry, A. Moravian Ladies' School, Fulneck.
 Lunt, M. d. Brighton House, Edgbaston.
 Robins, G. Queen Elizabeth's Gram. S., Barnet.
 Williams, M. F. Cheltenham Public School for Girls.
 Bannan, K. H. 6 Cumberland Gardens, St. Leonards.
 Farmer, E. L. d. Anglesea Villa S., Walton, L'pool.
 Mather, L. Riversdale, Boston Spa.
 Bounphrey, M. A. Private tuition.
 Macklin, E. L. d. 9 Kingsgate Street, Winchester.
 Sutcliffe, M. A. Wintersdorf, Southport.
 Mawson, A. Wintersdorf, Southport.
 Nestle, B. G. A. M. Oak Hill School, Huddersfield.
 Norrish, M. E. d. 8 West Cliff, Dawlish.
 Bullock, E. M. Emwell House School, Warminster.
 Daws, L. R. Hartington House S., Beckenham.
 Parkhouse, E. E. Girls' High School, Harrow.
 Willan, L. E. P. 6 Cumberland Gardens, St. Leonards.
 Gannaway, M. E. Stafford Street School, Brewood.
 Raisin, L. M. Stroud Green High School, N.
 Webb, L. H. Stroud Green High School, N.
 Keene, M. M. d. Clyde Villa School, W. Hampstead.
 Bailey, E. Norwood College, Withington.
 Balharry, M. Penrhos College, Colwyn Bay.
 Barnett, O. M. High School, Walton-on-Thames.
 Beesley, E. A. Grammar School, Wirksworth.
 Benson, E. d. Church Walk, Ulverston.
 Barns, F. M. d. Blenheim House, Olton.
 Buttercase, A. L. d. Somerville House, Newcastle-on-T.
 Hunt, R. H. Grattan House, Gt. Malvern.
 Rees, E. E. Hill House College, Haverfordwest.
 Skinner, I. E. Hartington House S., Beckenham.
 Varley, A. The College, Huddersfield.
 Bradford, B. d. Hamilton College, Sideup.
 Cunningham, I. Finchley High School for Girls.
 Gilbert, I. Rokesley House, Brighton.

- Gray, D. The Torquay High School.
 Gray, M. d. The Torquay High School.
 Mills, E. A. d. The Portlands, Marsh, Huddersfield.
 Musk, C. E. bk. Eton House School, Cheltenham.
 Pailthorpe, A. E. Keswick House School, Putney.
 Kershall, F. 48 Hall Gate, Doncaster.
 Edwards, G. The College, Huddersfield.
 Rodier, K. d. Norwood College, Withington.
 Channing, E. Euston Collegiate School, N.W.
 Clarkson, E. M. 2 Storey Sq., Barrow-in-Furness.
 Falkner, B. A. Hamilton College, Sideup.
 Hill, M. A. Finchley High School for Girls.
 Hume, M. K. Dundonald, Bournemouth.
 Penny, B. M. West Green College, Tottenham.
 Pitt, G. M. St. Leonard's Coll., Amhurst Pk., N.
 Ridley, M. H. Dunheved College, Launceston.
 Streeter, B. Eng. High S., Pera, Constantinople.
 Bell, A. Camperdown, West Norwood.
 Chappell, M. F. Stroud Green High School, N.
 Clifford, M. Brondesbury High School, N.W.
 Dutton, E. Southolme High S., Manchester.
 Lester, F. The Old Grammar School, Thame.
 Moore, A. P. Victoria College, Belfast.
 Norrish, L. B. d. 8 West Cliff, Dawlish.
 Oldroyd, I. A. Stroud Green High School, N.
 Ormond, M. Merton College, Croydon.
 Roadnight, E. The Old Grammar School, Thame.
 Roberts, N. Merton College, Croydon.
 Tomkins, I. 6 Cumberland Gardens, St. Leonards.
 Wendover, D. K. M. West Enfield High School.
 Chabert, M. f. Engl. High S., Pera, Constantinople.
 Grove, N. F. d. Ladies' Collegiate S., Leamington.
 Mason, R. C. Stroud Green High School, N.
 Overell, A. L. Elm House Collegiate S., Enfield.
 Shewen, E. High School, Walton-on-Thames.
 Beckingsale, C. Cheltenham Public School for Girls.
 Ferguson, A. A. Hamilton House, Tunbridge Wells.
 Freeland, V. M. Private tuition.
 Matson, A. M. Stroud Green High School, N.
 Minter, M. William Gibbs' School, Faversham.
 Stewart, M. E. Glebe Place S., Stoke Newington.
 Blyth, M. M. Collegiate High School, Didsbury.
 Brantingham, V. The Grange, Sunderland.
 Chivers, A. E. B. Manor Mount School, Forest Hill.
 Hodgson, R. Hamilton House, Tunbridge Wells.
 Ives, G. M. Royal Naval School, Twickenham.
 Jacob, E. 8 West Cliff, Dawlish.
 Kaye, H. West Kensington High School.
 Ladell, D. B. Caldecote Towers, Bushey Heath.
 Matson, F. B. Bastion House, Gloucester.
 Watson, M. Church Walk, Ulverston.
 Wood, H. M. Stroud Green High School, N.
 Bowker, E. Ellerslie House S., Lytham.
 Colsell, E. L. St. Leonard's Coll., Amhurst Pk., N.
 Heselton, F. A. 38 High Street, Bridlington.
 Jones, M. M. Manor Mount School, Forest Hill.
 Lewis, M. Wine Street House, Frome.
 Mercer, P. B. Fairfield College, Exmouth.
 Needham, M. B. Southolme High School, Manchester.
 Peacock, W. S. Caldecote Towers, Bushey Heath.
 Boardman, M. The Convent, Erith.
 Clare, A. K. Private tuition.
 Gibbs, S. Penrhos College, Colwyn Bay.
 Heath, H. E. Hamilton College, Sideup.
 Hubbard, E. d. The Laurels, Walsall.
 Jones, F. Windsor High School, Liverpool.
 Judd, I. A. Belgrave House, Wandsworth Court.
 Lilley, M. 7 Hyde Terrace, Tollington Park.
 Oddy, A. M. Caldecote Towers, Bushey Heath.
 Sadler, E. G. d. Ashtree House S., Sutton Coldfield.
 Schofield, F. Riversdale, Boston Spa.
 Sheppard, F. 7 Hyde Terrace, Tollington Park.
 Tilley, A. Heathfield House, Wimborne.
 Williams, G. M. Caldecote Towers, Bushey Heath.
 Bullen, G. Bleneathra, Rhyl.
 Fryer, B. 7 Hyde Terrace, Tollington Park.
 Howes, G. J. Brockley High School.
 James, R. M. Eton Park College, S. Hampstead.
 Johnston, E. M. Private tuition.
 Lord, K. S. Penrhos College, Colwyn Bay.
 Madgin, E. L. Stroud Green High School, N.
 Vibert, E. M. G. Westfield House, Gloucester.
 Barry, L. d. Private tuition.
 Crossman, C. A. d. Royal Naval School, Twickenham.
 Frowde, B. E. Private tuition.
 Jacobsen, A. C. High Class School, Beceles.
 Needham, M. J. Private tuition.
 Read, E. J. Berry Villa, Silverton, Cullompton.
 Wilkin, E. F. 4 Endsleigh Gardens, N.W.
 Cave Browne Cave, M. Ellerslie House School, Lytham.
 Hensworth Sykes, M. Clyde Villa S., West Hampstead.
 King, M. Cheltenham Public School for Girls.
 Lockie, M. E. Harcourt Lodge, Anerley.
 Madden, M. Convent S., Highgate Road, N.W.
 Mee, I. Merton College, Croydon.
 Parker, C. M. The Ladies' College, Goudhurst.
 Paulden, J. A. Ladies' Coll., Ebor Mount, Knarlesbro'.
 Payne, C. A. Plas Hen School, Cowbridge.
 Pennoek, M. Tooting High School for Girls.
 Rutley, E. Merton College, Croydon.
 Smith, K. 40 High Street, Thame.
 Tanner, R. d. Riversdale, Boston Spa.
 Bruton, M. Private tuition.
 Davis, K. Private tuition.
 Gabbatt, A. M. A. 2 Storey Sq., Barrow-in-Furness.
 Gregory, K. E. West House High S., Forest Hill S.E.
 Jewell, F. Gordonville Ladies' S., Coleraine.
 Krendall, C. A. Fartown Grammar S., Huddersfield.
 Lynch, J. Willington Park House, Belfast.
 Mate, L. G. d. Sandwich School.

GIRLS, THIRD CLASS—Continued.

- Shute, E. B. d. Princess Frederica S., Kensal Rise.
Symons, M. J. Berry Villa, Silverton, Cullompton.
Taft, M. C. West House High S., Forest Hill, S.E.
Traylor, C. M. M. Girls' Collegiate S., Carmarthen.
- Allen, A. Moss House S., Whitefield, M'chester
Bulling, H. Priory House, York.
Coggin, G. B. Heathfield House, Wimborne.
Green, M. D. The College, Nightingale Lane, S.W.
Helby, N. C. Clyde Villa S., West Hampstead.
Howe, M. Finchley High School for Girls.
Hughes, M. Collegiate School, Waltham Cross.
Jefferis, A. A. Milton Mount College, Gravesend.
Kenning, E. Towcester College.
Murdoch, C. Eagle College, Hornsey.
Squier, M. D. Channing House School, Highgate.
Walker, E. Ellerslie House School, Lytham.
Williams, K. Merton College, Croydon.
Williams, M. C. Windsor High School, Liverpool.
- Baker, L. M. Inverness House S., Thornton Hth.
Boothby, L. Abbeyfield Mount, Sheffield.
Bowen, C. A. Plas Hen School, Cowbridge.
Cheeseright, F. E. Brampton House, Swaffham.
Cooke, F. W. d. Hamilton College, Sidecup.
Coombs, M. H. d. Wine Street House, Frome.
Cussons, E. R. Park Gate House, Hull.
Fraser, F. I. Abbey Park Coll., Stamford Hill, N
Gibson, K. The College, Huddersfield.
Jones, B. M. Belle Vue, Llandilo.
Lloyd, M. E. G. Private tuition.
Martin, E. L. M. Royal Naval School, Twickenham.
Searjeant, F. M. Brondesbury High School, N.W.
Stagg, I. St. Mary's School, Whitechurch.
Wheeler, L. F. Stoke Newington Rd. High School.
Whittaker, U. H. Penrhos College, Colwyn Bay.
- Ainsworth, J. L. Vale House, Whalley.
Griffin, E. R. Holmcroft, Bromley, Kent.
Hodgart, G. R. Hr. Trannmere High School for Girls.
King, M. Ashburne House, Chepstow.
Lowther, I. M. Annerslie, Clifton, Bristol.
Maylam, E. William Gibbs' School, Faversham.
McDiarmid, E. Rye Collegiate School, Sussex.
Phillips, M. B. Lewisham College, Lewisham.
Sherer, J. 19 St. Aubyn s, Brighton.
Sly, A. d. Merton College, Croydon.
Weaver, E. A. Cheltenham Public School for Girls.
- Braithwaite, K. A. Finchley High School for Girls.
Carr, G. L. Wallasey Girls' Coll. S., Liskeard.
Clifford, E. Licensed Victuallers' School, S.E.
Lowe, M. H. Dresden House, Evesham.
Rees, A. F. Private tuition.
Reynard, A. C. d. Cotterwolds' S., Thornton Heath.
Rosser, E. d. Merton College, Croydon.
Swaffield, B. Manor Mount School, Forest Hill.
Whitwam, M. H. Private tuition.
- Beezley, E. M. Wimborne Minster Ladies' College.
Billington, E. M. Betley Ladies' College, Crewe.
Collings, P. Brixham High School, S. Devon.
Davison, S. W. The Grange, Sunderland.
Greenwood, M. Penrhos College, Colwyn Bay.
Hicks, L. C. Seymour House, Saltash.
Love, N. High Class School, Beccles.
Newey, A. E. Blenheim House, Olton.
Ormond, E. Merton College, Croydon.
Plowright, M. Queen Elizabeth's Gram. S., Barnet.
Roberts, A. Henley House, Penarth.
Standing, G. E. Wintersdorf, Southampton.
Stubbs, E. M. Royal Naval School, Twickenham.
Taylor, E. Lynwood Villa School, Trowbridge.
Tinson, E. Abingdon College, Kensington, W.
Walker, L. L. London College, Stratford.
Whittingham, E. E. Fairfield House, East Dereham.
Wright, C. I. Dresden House, Evesham.
- Armitage, A. The College, Huddersfield.
Beer, M. Whetstone House S., Hr. Trannmere
Burt, M. Merton College, Croydon.
Chalmers, E. M. Mornington House, W. Kensington.
Corby, E. M. Finchley High School for Girls.
Dunlop, J. N. 6 Orchard Gardens, Teignmouth.
Dunn, E. d. Collegiate High School, Didsbury.
Hodge, J. 34 Emma Pl., Stonehouse, Plymouth.
Hooper, L. E. Elson House, Leytonstone.
Jewsbury, S. Collegiate High School, Didsbury.
Jones, E. Merton College, Croydon.
Middleton, F. Bank House School, Warrington.
Minette, E. Montpellier Col., Budleigh Salterton
Pilbrow, F. M. Goodwood House, Margate.
- Douglas, E. A. High School for Girls, Prestwich.
Grange, J. L. The Old Grammar School, Thame.
Jennings, C. R. Private tuition.
Lucius, A. Alderhurst, Sale.
Molochades, S. Eng. High S., Pera, Constantinople.
Portway, G. E. Holmcroft, Bromley, Kent.
Read, L. Girton House, Yeovil.
Smith, G. M. Ladies' Collegiate S., Leamington.
- Burley, E. The College, Huddersfield.
Carter, L. The College, Huddersfield.
Crill, E. M. Private tuition.
Franklin, E. U. Oxford College, Gunnersbury.
Freeland, E. M. Gatefield College, Lewisham.
Hodgkins, F. F. M. Stroud Green High School, N.
Hyslop, M. F. G. Braeside College, Fortis Green, N.
John, M. S. Plas Hen School, Cowbridge.
Kay, E. M. Beech House School, Eccles.
Massingberd-Teale, M. Ladies' College, Newton Abbot.
Orchard, E. M. Hamilton College, Sidecup.
Porter, J. Edgeworth House S., Finsbury Pk.
Sears, A. E. The Ladies' School, Goudhurst.
Stayner, F. d. Holm Vale School, Nottingham.
Sutton, F. V. Private tuition.
Wolters, K. M. St. John's College, Brixton.
- Boulton, V. The College, Nightingale Lane, S.W.
Casey, A. d. High School, Walton-on-Thames.
Davis, C. E. 20 York Villas, Brighton.
Dunford, C. E. Newcastle House, Lewes.
Goodall, E. M. d. Private tuition.
- Jones, N. Whetstone House S., Hr. Trannmere.
Linzell, E. M. Huntingdon House, Ely.
Lush, N. A. G. Claremont House, Brondesbury.
Mann, S. M. St. Etheldreda's School, Soham.
Marshall, H. Rocca-bruna, Bexhill-on-Sea.
Popple, G. Finchley High School for Girls.
Woodzell, R. G. Great Ealing School.
- Hadden, B. Private tuition.
Hardesty, C. L. Bucking'm Ho., Ravenscourt Pk., W.
Holbrook, L. Crofton House School, Manchester.
McWean, M. Hr. Trannmere High School for Girls.
Richardson, I. S. E. Somerville House, Newcastle-on-T.
Russell, J. Lily Bank, Sale.
Smith, M. A. Raincliffe College, New Barnet.
Soutar, F. Berry Villa, Silverton, Cullompton.
Vaughan, A. Norwood College, Withington.
- Baker, M. William Gibbs' School, Faversham.
Bucknall, A. C. The Coll., Crystal Palace Pk. Rd., S.E.
Evans, F. H. Blencathra, Rhyl.
Fripp, L. Cambridge College, Twickenham.
Haigh, M. Abbey House School, Selby.
Hatrik, F. M. 7 Hyde Terrace, Tollington Park.
Jannieson, J. L. Keswick House School, Putney.
Ladell, M. K. Caldecote Towers, Bushey Heath.
Loveys, M. E. Trefreock, Endillon, Wadebridge.
Mortiboy, M. J. Fairfield House, East Dereham.
Pitman, M. Clifton House School, Bracknell.
Smith, G. H. College House School, Coventry.
- Banning, A. M. Ladies' Collegiate S., Cheltenham.
Burton, L. H. Oriel House, Harpenden.
Day, M. Whetstone House S., Hr. Trannmere.
Furner, M. Castelnau College, Barnes.
Hatch, F. E. Twickenham High School.
Hickox, C. Abingdon College, Kensington, W.
Hope-Murray, L. Camperdown, West Norwood.
Malkin, P. H. Penrhos College, Colwyn Bay.
Rossiter, A. E. Fairfield, Cotham Park, Bristol.
Savage, M. W. Private tuition.
Scott, V. M. L. Hamilton College, Sidecup.
Zwiinger, A. f. Private tuition.
- Bamfield, E. Royal Naval School, Twickenham.
Cooper, E. Merton College, Croydon.
Fawcett, A. L. Private tuition.
Green, A. Vale House, Whalley.
Hayne, B. E. Girton House, Yeovil.
Kelly, N. Montpellier Col., Budleigh Salterton
Marker, J. Belle Vue, Llandilo.
Mellows, M. Moravian Ladies' School, Fulneck.
Melville, R. M. Caldecote Towers, Bushey Heath.
Moss, K. Merton College, Croydon.
Okey, E. L. Hillsleigh, Southampton.
Pearson, F. J. Ramshill House College, Petersfield.
Sly, L. Merton College, Croydon.
Taylor, B. Brockley High School.
Telfer, A. H. S. The Hill House School, Warwick.
Whitaker, C. E. Private tuition.
Widdowfield, J. L. Fulford Field House, York.
- Berridge, G. L. Grammar School, Wirksworth.
Brelsford, J. L. Southolme High S., Manchester.
Clarke, E. Saxenholme, Birkdale, Southport.
Cooke, G. M. Licensed Victuallers' School, S.E.
Hall, M. J. West House High S., Forest Hill, S.E.
Hancock, E. M. Glebe Place S., Stoke Newington.
Harding, A. E. A. Rushford House School, Longsight.
Hill, G. I. Finchley High School for Girls.
Ing, N. The Old Grammar School, Thame.
Lyon, A. 3 Dorchester Terrace, Hull.
Nalder, F. The College, Huddersfield.
Rowe, J. Lansdowne House, St. Columb.
Seymour, L. E. Shelley House School, Ongar.
Smith, F. E. Merchant Taylors' Girls' S., G. Crosby
Turner, F. M. The Wooda, Bideford.
Vining, W. R. Manor Mount School, Forest Hill.
Walker, F. M. Keswick House School, Putney.
Ward, M. A. Stroud Green High School, N.
- Bethune, S. R. Victoria College, Belfast.
Boyd, J. Convent School, Highgate Rd., N.W.
Chamberlin, A. Beecherof College, Richmond Hill.
Field, A. M. Raleigh Mid. Cl. S., Stoke Newington.
Fyson, L. St. Etheldreda's School, Soham.
Guest, E. B. Dudley Proprietary School.
Harrington, E. Masbro' House, Brook Green, W.
Hartung, E. M. Fern Bank, Wandsworth Common.
Mayer, E. M. Teddesley House, Walsall.
McKisack, M. K. Girls' Collegiate S., Carmarthen.
Smith, M. A. Fucies House, Hereford.
Steabben, M. C. Oriel House, Harpenden.
Thomson, E. Montpellier Coll. Budleigh Salterton
Tucker, E. Berry Villa, Silverton, Cullompton.
Wakefield, C. N. Blenheim House, Olton.
- Blanch, V. M. Beauvoir House, Margate.
Blunt, H. Mornington House, W. Kensington.
Brown, E. G. Elson House, Leytonstone.
Cogdon, E. S. Glebe Place S., Stoke Newington.
Dick, M. E. K. Private tuition.
Heppenstall, R. I. Southolme High School, Manchester
Hutcheson, S. Brynderwyn Ladies' S., Coleraine.
Johnson, E. M. Sunnerhill House, Litherland.
Le Fenve, E. Halcyon House, St. Helier's.
Murray, A. F. Hr. Trannmere High School for Girls
Nicholson, H. G. Engley Bank, Southport.
Rackham, A. F. Wimborne Minster Ladies' College.
Randle, E. 34 Emma Pl., Stonehouse, Plymouth.
Reeve, W. P. The Ladies' College, Goudhurst.
Richards, E. 7 Hyde Terrace, Tollington Park.
Schofield, A. I. Southolme High School, M'chester.
Shaw, G. A. Glebe Place S., Stoke Newington.
- Stacey, C. Crescent House, Gravesend.
Stansbury, E. M. Private tuition.
Turner, B. Hundiscombe Place S., Plymouth.
Whitwam, E. Private tuition.
- Armstrong, J. M. Windsor High School, Liverpool.
Bayley, M. J. St. John's College, Brixton.
Beckett, R. L. Forest Hill Middle Cl. School, S.E.
Bruton, H. K. Private tuition.
Colson, E. J. Freeland, Shawford, Winchester.
Cran, J. Fairfield Ladies' S., Manchester.
Davies, E. St. Audrie's, Penarth.
Jones, B. Hill View House, Stonehouse, Glos.
Langridge, E. M. Cedar House, Ramsgate.
Lees, B. V. Hr. Trannmere High School for Girls.
Livesey, H. F. The Elms, Coventry Pk., Streatham.
Mallinson, A. The College, Huddersfield.
Pearse, F. E. Duke Street Girls' School, Bath.
Reys, R. E. Lea Hurst, Upper Clapton, N.E.
Ross, I. J. Royal Bay School, Gorey, Jersey.
Rymer, A. M. Penrhos College, Colwyn Bay.
Shimwell, D. Collegiate High School, Didsbury.
Spencer, W. M. Private tuition.
Tichener, E. R. Hamilton College, Sidecup.
Vanderpump, G. M. West Enfield High School.
Wilford, E. d. Riversdale, Boston Spa.
Wilson, M. B. Victoria College, Belfast.
Winter, J. E. W. 8 Oakland Terrace, Cricklewood.
- Barber, E. M. Hill View House, Stonehouse.
Bishop, C. 2 Gordon Terrace, Exmouth.
Booth, C. M. Brentwood, Southport.
Britton, A. Eton House School, Cheltenham.
Campbell, C. F. Oakwood House, Brighton.
Chadwick, S. Fairfield Ladies' S., Manchester.
Finney, H. F. Penrhos College, Colwyn Bay.
Ford, S. 7 Hyde Terrace, Tollington Park.
Garrard, M. Cumberland House, Acock's Green.
Gerhold, M. St. Margaret's, Cardiff.
Haskins, M. Caldecote Towers, Bushey Heath.
Johnson, L. M. d. The Torquay High School.
Percy, E. A. Fairfield, Cotham Park, Bristol.
Ravn, E. E. Manor Mount School, Forest Hill.
Richard, A. D. Euston Collegiate School, N.W.
Scott, E. Camperdown, West Norwood.
Scutcliffe, A. Girls' Collegiate S., Carmarthen.
Tinker, B. d. Merton College, Croydon.
Todd, F. Claremont House, Sunderland.
Tollerton, I. William Gibbs' School, Faversham.
- Bigger, A. M. Girls' Collegiate School, Belfast.
Blakey, M. C. Merchant Taylors' Girls' S., G. Crosby
Brown, N. L. North Bristol School for Girls.
Burgess, A. M. Elson House, Leytonstone.
Church, M. E. Hamilton College, Sidecup.
Darby, L. Dudley Proprietary School.
Ford, E. S. Avon House School, Southsea.
Fripp, F. Cambridge College, Twickenham.
Gunn, E. M. St. Margaret's, Cardiff.
Hare, G. M. Launceston Girls' High School.
Helby, V. M. Clyde Villa School, West Hampstead.
Keen, E. Chiltern House School, Godalming.
Lingwood, A. G. Cliff Park High School, Southend.
Mayman, A. G. Euston Collegiate School, N.W.
Michell, J. W. Launceston Girls' High School.
Penhale, M. J. Trefreock, Endillon, Wadebridge.
Perratt, K. A. Berry Villa, Silverton, Cullompton.
Reynolds, H. M. St. Leonard's Coll., Anghurst Pk., N.
Silverstone, E. Delbury House, Chippenham Rd., W.
Sparks, M. C. Queen's College, Acton.
Stark, L. Eng. High S., Pera, Constantinople.
Stephens, L. G. Private tuition.
Wasson, J. Victoria College, Belfast.
Welch, B. A. College House School, Coventry.
- Bain, F. E. Riversdale, Boston Spa.
Baldwin, E. E. High School, Brighouse, Yorkshire.
Bullers, M. Gatefield College, Lewisham.
Channon, A. Ruthwell School, Barnstaple.
Corbin, D. E. d. The Museum, Brixton Hill.
Darwin, M. Norwood College, Withington.
East, R. M. Beaumont, The Grosvenor, Margate.
Foster, L. Dudley Proprietary School.
Halstead, G. The College for Ladies, Boston Spa.
Härtel, M. E. West Enfield High School.
Hatfield, A. Milburn House S., Forest Hill, S.E.
Henry, R. Manor Mount School, Forest Hill.
Hurditch, A. M. Clarendon College School, Bristol.
Ibberson, M. The Portlands, Marsh, Huddersfield.
Jones, S. E. Hr. Trannmere High School for Girls.
Lawton, F. Betley Ladies' College, Crewe.
Lee, E. H. Queen's Coll., Haverstock Hill, N.W.
Martin, B. A. Tooting High School for Girls.
Nicholson, M. F. Fartown Grammar S., Huddersfield.
Taylor, M. A. Alpine Villa School, Ascot.
Waldler, M. Moravian Ladies' School, Fulneck.
White, E. C. Kensington House School, York.
Wilcox, E. J. London College, Stratford.
- Beck, N. Merton College, Croydon.
Bennett, H. M. Brockley High School.
Boreham, C. J. Tufnell Park Terrace School, N.
Breton, E. Montpellier Col., Budleigh Salterton
Clayton, E. Montpellier Col., Budleigh Salterton
Fielder, E. G. Hazelhurst, Wimbledon.
Griessen, L. D. Heathfield House, Wimborne.
Holland, B. J. Claremont House, Brondesbury.
Murray, V. E. Hillsleigh, Southampton.
Nickels, F. M. Hr. Trannmere High School for Girls.
Parrott, E. M. 9 Kingsgate Street, Winchester.
Pilbrow, E. E. Goodwood House, Margate.
Raven, E. Mornington House, W. Kensington.
Roberts, M. Merton College, Croydon.
Robson, J. Blencathra, Rhyl.
Smith, E. 7 Hyde Terrace, Tollington Park.
Smith, K. E. Hamilton College, Sidecup.
Strahan, W. M. Downs Hill, Tottenham.

GIRLS, THIRD CLASS—Continued.

Swift, F. A. Queen's Coll., Haverstock Hill, N.W.
Welch, M. M. 13 Park Lane, Stoke Newington.
Wright, E. A. Cambridge House, Chichester.
Wyborn, A. Bromley Park College, Kent.

Barrie, E. Blencathra, Rhyl.
Bleasby, P. Riversdale, Boston Spa.
Bowie, C. Eversley S., Upper Tollington Park.
Crockett, D. A. All Hallows, Ditchingham.
Debenham, G. E. Brondesbury High School, N.W.
Ewbank, E. K. Private tuition.
Goffey, S. Merchant Taylors' Girls' S., G. Crosby
Harrington, E. E. Masbro' House, Brook Green, W.
Hewkley, E. E. Manor Mount School, Forest Hill.
Hornbrook, A. M. Girton House, Yeovil.
Joues, M. Girls' Collegiate School, Carmarthen.
Jotcham, M. E. Sandwich School.
Kent, S. The Ladies' College, Goudhurst.
Latimer, I. R. Gordonville Ladies' S., Coleraine.
Lees, E. J. Hill House Coll., Haverfordwest.
Moore, G. Hr. Trannmere High School for Girls.
Peacock, E. Twickenham High School.
Read, E. St. Francis Xavier's S., Gt. Grimsby.
Ridyard, A. A. Hr. Trannmere High School for Girls.
Robinson, V. E. Surbiton High School.
Somerville, J. Sunnybank Ladies' Coll., Wilmslow.
Stephens, S. E. Alstonfield, Ashbourne.
Sumner, M. Babington House, Eltham.
Taylor, M. L. Cheltenham Public School for Girls.
Thomas, L. Hamilton College, Sidecup.
Tylden-Wright, E. Hamilton House, Tunbridge Wells.
Van der Elst, E. Eng. High S., Pera, Constantinople.
Vobes, F. N. Albany High School, Brighton.
Watkins, E. Collegiate School, Waltham Cross.
Willcocks, L. W. St. Leonard's Coll., Amhurst Pk., N.

THIRD CLASS.—2ND DIVISION.

Aylward, J. E. Ladies' School, Cosham, Hants.
Baker, W. M. Tooting High School for Girls.
Barnes, W. E. High School for Girls, Erith.
Burdoch, K. Stroud Green High School, N.
Collett, N. M. Bleunheim House, Olton.
Dash, M. W. Eversley High School, Eastbourne.
Hunter, M. Merton College, Croydon.
Marshall, A. 49 Middle Lane, Crouch End.
Maxwell, L. J. Southolme High S., Manchester.
Norgaard, A. The College, Nightingale Lane, S.W.
Ridge, A. South Croydon College.
Rowlands, K. Hr. Trannmere High School for Girls.
Serviss, S. Brynderwyn Ladies' S., Coleraine.
Sharpley, R. E. Elson House, Leytonstone.
Thomas, L. St. Maur School, Chepstow.
Whitley, M. Victoria College, Belfast.
Willis, B. Masbro' House, Brook Green, W.

Ashmead, B. Whetstone House S., Hr. Trannmere.
Chapman, M. Twickenham High School.
Day, E. Buxton Coll. S., Kennington Road.
Freedman, I. Stoke Newington Road High School.
Galton, E. A. Lawn Coll., Shepherd's Bush Green.
Gillett, L. St. Margaret's, Cardiff.
Hadland, E. L. The Old Grammar School, Thame.
Hart, E. Merton College, Croydon.
Hollings, E. Whitelaw House, Chorlton-c.-Hardy.
Hutton, E. Moravian Ladies' School, Fulneck.
Lowndes, E. Penrhos College, Colwyn Bay.
Morrison, E. M. Calton Bank, Altrincham.
Pagenkopf, R. K. M. London College, Stratford.
Pennington, E. 2 Storey Sq., Barrow-in-Furness.
Piggott, C. West House High S., Forest Hill, S.E.
Pownall, E. J. F. Lewisham College, Lewisham.
Reynolds, L. A. West House High S., Forest Hill, S.E.
Rogers, K. St. Ursula's Convent, Oxford.
Scott, H. F. Cranleigh House, Adelaide Rd., N.W.
Shannon, I. Girls' Collegiate School, Belfast.
Tolson, H. Clyde Villa S., West Hampstead.
Uren, M. d. Portland Terrace School, Jersey.
Wilce, M. A. Farington College, Blackpool.
Wilson, M. J. Girls' Collegiate School, Belfast.

Bates, K. Queen's Coll., Haverstock Hill, N.W.
Brand, C. H. Berry Villa, Silvertown, Cullompton.
Densham, M. Merton College, Croydon.
Doble, A. L. St. Olave's School, Taunton.
Franklin, M. The Old Grammar School, Thame.
Gomme, R. M. L. Clarendon House, Brondesbury.
Gray, M. 6 Cumberland Gardens, St. Leonards.
Hayes, E. K. St. Agnes' College, Moseley.
Hope, E. I. Wallasey Girls' Coll. S., Liscard.
Ingram, M. Merton College, Croydon.
Johnson, A. Parkfield College, High Barnet.
Johnson, C. E. Ladies' Coll., Ebor Mount, Knaresbro'.
Law, M. S. 4 Endsleigh Gardens, N.W.
Martin, F. E. St. Etheldreda's School, Soham.
McMullen, A. I. Tudor House, Brixton Road.
Meek, D. Collegiate High School, Didsbury.
Mellor, E. Fairfield Ladies' S., Manchester.
Ogle, H. M. S. Royal Naval School, Twickenham.
Pratt, M. Fairfield Ladies' S., Manchester.
Richards, F. 9 Barnstaple St., South Molton.
Stott, M. A. The College, Huddersfield.
Tavener, M. Beaumont, The Grosvenor, Margate.
Walling, M. Towcester College.
Wilson, A. I. English Day School, Belfast.

Barnard, J. E. Cumberland House, Acock's Green.
Browne, L. M. Royal Naval School, Twickenham.
Carpenter, D. M. Wine Street House, Frome.
Cheverson, M. L. Forest Hill Middle Class S., S.E.
Dawes, L. Wesley House S., Castleford, Yorks.
Dempster, H. A. E. The Ladies' College, Goudhurst.

Dummeller, S. J. Betley Ladies' College, Crewe.
Garland, A. N. Surbiton High School.
Horsfall, A. D. Caldecote Towers, Bushey Heath.
Hunfrey, J. Abbey House School, Selby.
Huyshe, E. J. Wimborne Minster Ladies' College.
Jackson, F. Saxenholme, Birkdale, Southport.
Jones, L. F. S. Hurst Leigh, Southampton.
Lytle, H. Victoria College, Belfast.
Pannett, M. M. Newcastle House, Lewes.
Pinch, E. C. Trefreock, Endillion, Wadebridge.
Princep, A. E. Clarendon College School, Bristol.
Willcocks, E. Collegiate High School, Didsbury.

Beaumont, F. Park View School, Kirkburton.
Brashier, B. Licensed Victuallers' School, S.E.
Briddon, E. Grove School, Ilfracombe.
Chantry, A. Bank House School, Warrington.
Clarkson, J. D. 2 Storey Sq., Barrow-in-Furness.
Clements, A. M. Ryc Collegiate School, Sussex.
Cochran, J. Norwood College, Withington.
Croad, M. The Parks School, Minehead.
Davey, M. M. The Convent, Bath.
Dent, E. Kensington House School, York.
Foot, A. E. Lewisham College, Lewisham.
Fox, L. L. Eversley School, Up. Tollington Pk.
Holland, E. Girls' Collegiate S., Macclesfield.
Huyshe, W. A. Wimborne Minster Ladies' College.
Johnson, E. Grammar S., Church Rd., Willesden.
Jones, B. E. Private tuition.
Karlawa, F. M. Gatefield College, Lewisham.
Keymer, A. A. Licensed Victuallers' School, S.E.
Le May, E. Nevill College, Tunbridge Wells.
Lewins, E. Bentinck Rd. H.S., Newcastle-on-T.
Lewis, S. E. Queen's College, Acton.
Lovett, J. Oxford College, Gunnersbury.
Noble, B. 6 Prince's Avenue, Liverpool.
Preston, E. M. Finchley High School for Girls.
Punchard, L. N. Riverstead, Waterloo, Liverpool.
Simpson, E. Friern Barnet S., New Southgate.
Stanton, M. Ramshill House Coll., Petersfield.
Strutt, E. M. Nottingham Ladies' College.
Tasker, N. Eastville, Moor Oaks, Sheffield.
Turner, M. M. The College, Crys. Palace Pk. Rd., S.E.
Watherston, E. M. Private tuition.
Westerhont, C. Montpellier Col., Budleigh Salterton.
Whitley, M. L. The Elms, Coventry Pk., Streatham.

Allen, A. Licensed Victuallers' School, S.E.
Benfield, E. P. Airedale, Streatham Common.
Brumpton, B. C. The Laurels, Nottingham.
Cholmeley, A. M. Private tuition.
Clement, E. Finchley High School for Girls.
Cooper, K. L. Raincliffe College, New Barnet.
Crathern, G. Merton College, Croydon.
Daniels, L. Greystone, Yeovil.
Edwards, L. C. Finchley High School for Girls.
Edwards, M. M. Fairfield House, East Dereham.
Firth, M. E. Elphinstone College, Putney.
Francis, E. M. Wine Street House, Frome.
Gowan, M. Cranleigh House, Adelaide Rd., N.W.
Hewitt, M. A. Newnham House School, Grantham.
Lees, R. M. Newlands, Hoylake, Cheshire.
Moules, F. M. Sun Street School, Hitchin.
Oldfield, S. F. Betley Ladies' College, Crewe.
Parker, K. Priory Mount School, New Brighton.
Simcox, A. P. M. The Old Grammar School, Thame.
Steel, M. L. Private tuition.
Stiff, F. B. Dover High School.
Swan, A. Merton College, Croydon.
Thompson, C. E. Private tuition.
Todd, E. Private tuition.
Walton, F. S. Private tuition.
Waruock, E. Private tuition.
White, L. 4 Challoner Terrace, South Shields.

Armstrong, E. M. Fulford Field House, York.
Baker, W. M. Private tuition.
Burnett, S. Olinda, New Brighton.
Butler, H. 7 Hyde Terrace, Tollington Park.
Carlyle, M. Shelley House School, Ongar.
Chaster, J. E. Fairfax College, Hornsey.
Cottin, R. F. Campden Hill College, W.
Gubb, F. E. Florida Collegiate S., Southampton.
Kneen, A. Southlands, Douglas, Isle of Man.
Laurence, M. Cheltenham Public S. for Girls.
Pattison, L. W. Launceston Girls' High School.
Princep, J. I. Clarendon Collegiate S., Bristol.
Shannon, J. V. Victoria College, Belfast.
Triplady, W. Lea Holm, Waterloo, Liverpool.
Watts, A. Queen's College, Acton.
Wilbee, D. High School, Herne Bay.
Wills, F. E. The College, Nightingale Lane, S.W.

Abbotson, E. Norwood College, Withington.
Carpenter, E. G. Cedar House, Ramsgate.
Colmer, E. C. Reckleford Cross School, Yeovil.
Dickson, L. Eton Park College, S. Hampstead.
Farrell, L. I. Ballina House School, Brixton Hill.
Green, A. M. Rushmore House, Kidderminster.
Gregson, A. M. Merchant Taylors' Girls' S., G. Crosby.
Humphreys, F. West End High School.
Jellicoe, M. E. The Elms, Coventry Pk., Streatham.
Jones, I. E. St. Maur School, Chepstow.
Joyce, A. 34 Emma Pl., Stonehouse, Plymouth.
MacKnight, L. Ballina House School, Brixton Hill.
Mansell, N. Lea Holm, Waterloo, Liverpool.
Massingberd-Teale, B. Ladies' College, Newton Abbot.
McCarthy, M. E. V. Deerhaddon College, Brixton Hill.
Ockenden, E. M. Middle Class School, Littlehampton.
Parsons, F. M. Private tuition.
Potter, A. I. The Beeches, Wolverhampton.
Scife, L. Church House School, Melksham.

Swaine, J. M. Wine Street House, Frome.
Tubb, R. B. Archer's School, Southampton.
Watherston, M. V. Private tuition.

Boddy, H. B. Collegiate High School, Didsbury.
Bolt, L. Beadesert, Leighton Buzzard.
Cooper, E. C. St. John's College, Brixton.
Dear, M. Merchant Taylors' Girls' S., G. Crosby.
FitzGibbon, Lily. Convent S., Highgate Road, N.W.
Gilbert, M. Fairfield, Cotham Park, Bristol.
Goodwin, E. S.E. Dist. Coll., Kennington Pk. Rd.
Holmes, A. B. Southolme High School, Manchester.
Horton, C. B. Bleunheim House, Olton.
Howitt, M. M. Manor Mount School, Forest Hill.
Kirkland, N. Moravian Ladies' School, Fulneck.
Lavington, B. Parkfield College, High Barnet.
Lunn, F. E. Ladies' School, Cosham, Hants.
Salter, M. B. Arncliffe House, Brixton.
Sharp, D. H. V. Hamilton House, Tunbridge Wells.
Unite, M. Thanet Hall, Margate.
Webb, E. Church House School, Melksha.
Williams, F. E. Penrhos College, Colwyn Bay.

Bowkett, E. M. St. John's College, Brixton.
Cable, E. M. A. 2 Hyde Vale Cottages, Greenwich.
Connal, C. J. High School for Girls, Erith.
Cowan, E. M. 94 Rye Hill, Newcastle-on-Tyne.
Entwistle, M. Eagley Bank, Southport.
Fuelling, L. The Ladies' College, Goudhurst.
Hayman, L. B. St. John's College, Brixton.
Hennis, J. 31 Brigstock Rd., Thornton Heath.
Kendall, M. Dorking High School for Girls.
Marler, M. A. Grosvenor House, Forest Hill.
Massey, J. Holm Vale School, Nottingham.
Miller, M. Moravian Ladies' School, Fulneck.
Piper, L. Ferme Park High School, Hornsey.
Roc, W. Boonara, Twickenham.
Saunders, S. L. Royal Naval School, Twickenham.
Videan, L. William Gibbs' School, Faversham.

Anthony, R. Towcester College.
Bate, M. St. Thomas' College, Launceston.
Boddy, E. M. Collegiate High School, Didsbury.
Boon, E. Lynsted Ladies' S., Sittingbourne.
Bradly, A. A. Licensed Victuallers' School, S.E.
Bridgens, J. St. Agnes' College, Moseley.
Carter, H. W. Summercastle House, Rochdale.
Donakin, N. Grove House, Heaton Chapel.
Dunn, E. d. Collegiate High School, Didsbury.
Easton, D. A. 94 Rye Hill, Newcastle-on-Tyne.
Emery, E. Avon House School, Southsea.
Guiver, F. J. Elm House Collegiate S., Enfield.
Hayward, W. S. Bank House School, Warrington.
Hill, G. A. H. 3 Grove Terrace, Rochdale.
How, M. 34 Emma Pl., Stonehouse, Plymouth.
Ingle, M. E. Ladies' Collegiate S., Cheltenham.
Lingard, M. Fairfield Ladies' S., Manchester.
Macmillan, J. Penrhos College, Colwyn Bay.
Massingham, D. The Elms, Coventry Pk., Streatham.
Mitchell, V. E. West End High School.
Monk, M. H. Malden High School, New Malden.
Nott, N. M. Ladies' Collegiate S., Cheltenham.
Nutt, H. Park View School, Kirkburton.
Oakley, G. C. Fleet, Winchfield, Hants.
Parkyn, C. A. Olinda, New Brighton.
Springett, M. S. High School, Cranbrook.
Taylor, C. A. Royal Bay School, Gorey, Jersey.
Walmsley, A. L. Royal Naval School, Twickenham.
Yates, E. Girls' High School, Maidstone.

Armstrong, S. C. North Bristol School for Girls.
Badcock, E. F. Launceston Girls' High School.
Beckley, P. E. Ballina House S., Brixton Hill.
Brown, S. St. Andrie's, Penarth.
Dudley, M. R. Blandford Lodge, Gunnersbury.
Edwards, M. William Gibbs' School, Faversham.
Garlick, A. M. Crofton House S., Manchester.
Ghey, N. J. Clarendon Coll. School, Bristol.
Hooper, B. R. F. Ladies' School, Ford, Devonport.
Huntley, F. Clarendon House, Sunderland.
Rive, M. Portland Terrace School, Jersey.
Robinson, F. E. Manor Mount School, Forest Hill.
Vickary, W. M. Dresden House, Evesham.

Barter, W. 1 Greenland Villas, Wood Green.
Cable, M. E. 2 Hyde Vale Cottages, Greenwich.
Clifton, M. St. Agnes' College, Moseley.
Crawley, M. E. Sun Street School, Hitchin.
Davies, G. M. Eign Leigh, Hereford.
Donald, E. G. C. Osney Villa School, Paignton.
Drinkwater, E. G. Esperance, Falmouth.
Ensor, R. H. Newnham House, Sherborne.
Fisher, E. Cheltenham Public S. for Girls.
Foskett, D. 19 St. Anby's, Brighton.
Gaylard, L. Girton House, Yeovil.
Gray, H. Ashburne House, Chepstow.
Hancock, M. Hundiscombe Place S., Plymouth.
Henderson, M. A. F. Windsor High School, Liverpool.
Jackson, A. M. Shelley House School, Ongar.
Mansell, E. M. Tooting High School for Girls.
Moore, C. Princess Gardens School, Belfast.
Norbury, E. Norwood College, Withington.
Pearson, G. E. Oxford College, Gunnersbury.
Price, J. B. St. Margaret's, Cardiff.
Robson, A. M. St. John's College, Brixton.
Wallace, M. G. Private tuition.
Ward, B. Oxford College, Gunnersbury.
Westlake, A. L. 2 Oxford Park, Ilfracombe.
Wilkins, D. E. W. 36 Handen Road, Lee, S.E.

Bickley, M. Brighton House, Edgbaston.
Bell, K. F. Somerville House, Newcastle-on-T.
Brown, E. J. Clarendon College, Plymouth.

GIRLS, THIRD CLASS—Continued.

- Bryson, C. Girls' High S., Cheadle, M'chester.
 Campion, M. G. 1 Greenland Villas, Wood Green.
 Cohen, M. San Remo, Eastbourne.
 Fargus, H. O. R. Private tuition.
 Frearson, F. F. Freeland, Shawford, Winchester.
 Galloway, M. D. Hr. Trammere High School for Girls.
 Gore, F. E. Holmcroft, Bromley, Kent.
 Hollingsworth, M. The Beeches, Wolverhampton.
 Kershaw, E. Moravian Ladies' School, Fulneck.
 Lucas, K. A. Ladies' College, Water Orton.
 Macnaghten, K. 19 St. Aubyn's, Brighton.
 Marshall, L. Cashibury House, Southend.
 Martyn, E. F. Cheltenham Public School for Girls.
 Oliver, M. Royal Naval School, Twickenham.
 Palmer, L. E. Streatham House School, Margate.
 Phillips, E. Sunny Side, Portsmouth.
 Powell, G. M. Church House School, Melksham.
 Robertson, A. M. 4 Challoner Terrace, S. Shields.
 Smith, E. D. A. Girls' Collegiate School, Belfast.
 Spencer, M. Penrhos College, Colwyn Bay.
- Arden, C. Highfield, Tarvin, Cheshire.
 Ball, E. G. Nottingham Ladies' College.
 Bell, M. 20 Kelvin Grove, Liverpool.
 Buckett, E. S. High School, Cranbrook.
 Chissell, B. H. Winbourne Minster Ladies' College.
 Duffin, E. Kensington House, Forest Hill.
 Fitch, G. E. St. John's College, Brixton.
 Goodchild, M. L. Private tuition.
 Greenwood, G. M. Grove House, Heaton Chapel.
 Koller, R. A. Bank House School, Seaford.
 Mallett, A. M. Grittleton High S., Elgin Avenue W.
 McKewan, A. Leighton College, Kentish Town.
 Morley, N. Barnet College, High Barnet.
 Richards, C. W. 21 Bear Street, Barnstaple.
 Tarr, A. The Parks School, Minehead.
 Walker, M. B. Pestalozzian School, Southampton.
 Wormington, A. E. Ladies' College, Water Orton.
- Bence, E. A. Portland College, Hammersmith.
 Cundy, S. A. London College, Stratford.
 Dishman, M. K. The Museum, Brixton Hill.
 Groves, B. Private tuition.
 Herron, M. Victoria College, Belfast.
 Hill, A. M. Melford House School, Leyton.
 Johnson, K. Thanet Hall, Margate.
 Kemp, M. F. Oxford College, Gunnersbury.
 Knight, E. H. Lloran Cottage, Hambledon, Hants.
 Marston, A. 36 Balmoral Rd., Fairfield, L'pool.
 Milam, L. Collegiate School, Waltham Cross.
 Norrington, E. Palatine College, Camberwell.
 Phillips, L. The Parks School, Minehead.
 Sengel, M. A. The Elms, Coventry Pk., Streatham.
 Sheen, G. Private tuition.
 Stevenson, R. Nottingham Ladies' College.
 Taylor, A. M. Royal Bay School, Gorey, Jersey.
 Whitehouse, M. St. Agnes' College, Moseley.
- Brown, M. E. Raincliffe College, New Barnet.
 Bundle, G. M. Churwell College, Leeds.
 Cardozo, L. Convent School, Highgate Rd., N.W.
 Child, J. I. Malden High School, New Malden.
 Dale, N. Portland Terrace School, Jersey.
 Dion, J. Merton College, Croydon.
 Edwards, F. E. Windsor High School, Liverpool.
 Emerson, E. M. St. Margaret's, Cardiff.
 Freeland, D. F. Private tuition.
 Gerson, C. E. M. Deerhaddon College, Brixton Hill.
 Grose, A. M. Clarendon College, Plymouth.
 Hammond, M. E. Elgin College, Maida Vale.
 Kewley, C. M. A. Albany College, Waterloo, L'pool.
 Knight, L. A. St. Maur School, Chepstow.
 Koller, D. M. Bank House School, Seaford.
 Lister, E. H. Farington College, Blackpool.
 Ludwig, M. St. Mary's Day S., Cholmeley Pk., N.
 O'Dell, E. Merton College, Croydon.
 Orton, B. Hill View House, Stonehouse, Glos.
 Paine, F. K. The Ladies' College, Goudhurst.
 Palmer, E. Thanet Hall, Margate.
 Shaw, G. Albany High School, Brighton.
 Spencer, M. Plas Hen School, Cowbridge.
 Stacy, E. M. St. Thomas' College, Launceston.
 Steer, E. F. Eaton House, Gloucester St., S.W.
 Thatcher, M. K. Licensed Victuallers' School, S.E.
- Board, E. Breakspear College, Brockley.
 Burgham, E. St. John's College, Brixton.
 Butcher, J. H. Private tuition.
 Cameron, J. Abingdon College, Kensington, W.
 Campbell, C. B. Stoke Newington Road High School.
 Cook, F. The Highlands, Lewes.
 Cresswell, M. H. West Hill, Ilkeston.
 Edwards, E. B. Private tuition.
 Jenner, S. M. Briarwood College, Wimbledon.
 Jorden, D. Barnet College, High Barnet.
 Kelsey, E. K. Elloughton Mount, Brough, E. Yorks.
 Lambert, E. Fairfield, Cotham Park, Bristol.
 Lunt, D. Brighton House, Edgbaston.
 Milne, M. Norwood College, Withington.
 Moore, E. Southlands, Douglas, Isle of Man.
 Morton, S. A. Victoria College, Belfast.
 Pearson, F. S. Merchant Taylors' Girls' S., G. Crosby.
 Powell, J. Plas Hen School, Cowbridge.
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4. **PROFESSIONAL PRELIMINARY EXAMINATIONS.**—These Examinations are held in March and September. The next Examination will commence on the 5th of September.

5. **INSPECTION OF SCHOOLS.**—Visiting Examiners are appointed by the College for the Inspection and Examination of Public and Private Schools.

PRIZES.

Diploma Examination.—In addition to the Doreck Scholarship of £20, the following Prizes will be competed for: Theory and Practice of Education, £10; Classics (Greek and Latin), £5; Mathematics, £5; Natural Science, £5.

Certificate Examination.—The "Isbister Prize" will be awarded to the Candidate who stands First, and the "Pinches Memorial Prize" to the Candidate who stands Second in General Proficiency. Prizes will also be awarded to the Third and Fourth in General Proficiency, and to the First and Second in the following subjects:—Classics, Mathematics, Modern Languages, Natural Sciences, English Subjects. The "Taylor Jones Memorial Prize" will be awarded to the best Candidate in Scripture History.

The Regulations of the above Examinations can be obtained on application to the Secretary at the College, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., Secretary.

PRELIMINARY EXAMINATION of MEDICAL STUDENTS.—The COLLEGE of PRECEPTORS will hold an Examination for Certificates recognised by the General Medical Council as qualifying for Registration as a Medical Student, on the 5th, 6th, and 7th of September.

The Examination will take place in London, and at the following Local Centres:—Birmingham, Bristol, Leeds, Liverpool.

Examination Fee, 25s.

Regulations and Entry Forms may be obtained on application to the Secretary of the College of Preceptors, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., Secretary.

COLLEGE OF PRECEPTORS.—Holders of the College Diplomas who are not Members of the College are requested to send their addresses to the Secretary of the College, Bloomsbury Square, W.C.

C. R. HODGSON, B.A., Secretary.

COLLEGE OF PRECEPTORS.— SCHOLARSHIPS FOR INTENDING TEACHERS.

With the view of encouraging the systematic training of teachers for their profession, the Council have established four Scholarships (two for male and two for female candidates), which will be offered for competition at the Certificate Examination in June, 1894.

The value of each of these Scholarships is £45 for a single year, or £30 a year for two years, if the candidate should determine to extend the period of training over more than one year.

The Scholarships are tenable

(a) At any Training College for Teachers in Secondary Schools, either at home or abroad, that may be approved by the Council; or

(b) At any school of established reputation, approved by the Council, which is prepared to offer such facilities for training as may be satisfactory to the Council; it being open to the Council to require the attendance of the scholar at such lectures on the Theory and Practice of Education, and to require him or her to pass such examinations in the Science and Art of Teaching, as the Council may determine.

Candidates (who must not be under 17 or over 21 years of age at the date of the Examination) are required to declare their intention of competing for these Scholarships prior to the Examination, and to submit such testimonials of character as may be considered satisfactory by the Council.

The Scholarships will be awarded to those candidates who, having fulfilled the above conditions, obtain the highest places in the Honours Division of the First Class.

C. R. HODGSON, B.A., Secretary.

COLLEGE OF PRECEPTORS.— (BLOOMSBURY SQUARE, W.C.) LECTURES FOR TEACHERS, ON THE SCIENCE AND ART OF EDUCATION. TWENTY-FIRST SESSION.

A Course of Twelve Lectures on "Practical Criticisms and Suggestions on Teaching," by the Rev. Canon DANIEL, M.A., Principal of St. John's Training College, Battersea, will commence on the 28th of September. For Syllabus, see page 372.

* A Doreck Scholarship, of the value of £20, will be awarded at the Diploma Examination at Christmas next, to the Candidate who, having attended two courses of the Training Class Lectures during the preceding 12 months, and having passed the full examination for a College Diploma, stands first in the examination in the Theory and Practice of Education.

The Fee for the Course is Half-a-guinea.

The Lectures will be delivered on Thursday Evenings, at 7 o'clock, at the College, Bloomsbury Square, W.C.—Members of the College have Free Admission to all the Courses of Lectures.

C. R. HODGSON, B.A., Secretary.

VICTORIA UNIVERSITY.

DEGREES are conferred in the Faculties of Arts, Science, Law, Medicine, and Music. Candidates for Degrees are required not only to pass the necessary Examinations, but also to attend prescribed Courses of study in one of the Colleges of the University.

The Colleges of the University are Owens College, Manchester, University College, Liverpool, and Yorkshire College, Leeds.

Communications regarding Examinations, Attendance, and University business generally, should be addressed, The REGISTRAR, Victoria University, Manchester.

The Calendar (price 1s.), containing the Regulations, Copies of Examination Papers, Lists of Graduates, &c., is published by Mr. J. E. CORNISH, Manchester, and by Messrs. MACMILLAN & Co., London.

UNIVERSITY DIPLOMA FOR WOMEN.

THE UNIVERSITY OF ST. ANDREWS grants Diploma and Title of L.L.B. to WOMEN. Subjects of Examination and Examination Papers include those for the M.A. Degree. For Prospectuses, apply to the SECRETARY, L.L.B. Scheme, The University, St. Andrews, N.B.

MEDICAL SCHOOLS.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.
WESTMINSTER HOSPITAL MEDICAL SCHOOL.
GUY'S HOSPITAL MEDICAL SCHOOL.
THE LONDON HOSPITAL MEDICAL COLLEGE.
ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

(For particulars of the above, see page 370.)

TRAINING COLLEGES.

FROEBEL TRAINING SCHOOL.
MARIA GREY TRAINING COLLEGE.
BEDFORD COLLEGE, LONDON.
KINDERGARTEN TRAINING SCHOOL.
HOME AND COLONIAL TRAINING COLLEGE.

(For particulars of the above, see next page.)

UNIVERSITY OF ABERDEEN.

(For particulars see page 372.)

OWENS COLLEGE, VICTORIA UNIVERSITY,
MANCHESTER.

PROSPECTUSES for the SESSION 1893-94 will be forwarded on application.

I. DEPARTMENT of ARTS, SCIENCE, and LAW.

II. DEPARTMENT of MEDICINE.

III. DEPARTMENT of PUBLIC HEALTH.

IV. DENTAL DEPARTMENT.

V. PHARMACEUTICAL DEPARTMENT.

VI. DEPARTMENT for WOMEN.

VII. DEPARTMENT for the EVENING CLASSES.

VIII. SCHOLARSHIPS, FELLOWSHIPS, &c. (varying in value from £30 to £150 per annum).

Apply to Mr. CORNISH, 16 St. Ann's Square, Manchester, or at the College.

HENRY WM. HOLDER, M.A., Registrar.

LONDON UNIVERSITY EXAMINATIONS.

Free Guides.

MATRICULATION GUIDE
No. XIV., June 1893.

**INTERMEDIATE ARTS
GUIDE.**

No. VIII., July 1893.

**INTER. SC. & PREL. SCI.
GUIDE.**

No. V., July 1893.

Any one of the above Guides, Prospectus, and full particulars of Classes for all London Exams., post free, on application to

THE SECRETARY,

(Univ. Corr. Coll. London Office.)

32 Red Lion Square, Holborn, W.C.

UNIVERSITY COLLEGE of NORTH WALES, BANGOR.

(Incorporated under Royal Charter.)
Principal—H. R. REICHEL, M.A., Fellow of All Souls' College, Oxford.

DEPARTMENTS.

Subjects.	Professors.
Greek	W. Rhys Roberts, M.A., late Fellow of King's College, Cambridge.
Latin	E. V. Arnold, M.A., late Fellow of Trinity College, Cambridge.
French and German	Frederic Spencer, M.A. (Camb.), Phil. Doc. (Leipzig).
English	The Principal.
Philosophy	E. Keri Evans, M.A., late Clark Fellow of Glasgow University.
Mathematics	G. B. Mathews, M.A., Fellow of St. John's College, Cambridge.
Welsh	Lecturer—J. Morris Jones, M.A., late Scholar of Jesus Coll., Oxford.
Welsh History	Lecturer—J. E. Lloyd, M.A., Lincoln College, Oxford.

II. Science.

Physics	Andrew Gray, M.A., F.R.S.E.
Chemistry	J. J. Dobbie, M.A., D.Sc., late Clark Fellow of Glasgow University.
Biology	R. W. Phillips, M.A. (Camb.), B.Sc. (Lond.), late Scholar of St. John's College, Cambridge.
Zoology	Lecturer—Philip J. White, M.B. (Edin.).
Agriculture	Lecturer—Douglas A. Gilchrist, B.Sc. (Edin.).

With eight ASSISTANT LECTURERS and DEMONSTRATORS.

The next Session opens on October 3rd, 1893. Inclusive Tuition Fee, £10 a year. Registration Fee, £1. 1s. Laboratory Fees additional, on the scale of £1. 1s. per term for six hours a week. The College possesses extensive and well-equipped Laboratories in Physics, Chemistry, and Biology.

The College Courses include the Subjects for Degrees of London University in Arts and Science. The Chemistry, Botany, Physics, and Zoology Courses are recognised for Medical Graduation in the Universities of Edinburgh and Glasgow, and Students can make one Annus Medicus at this College. Special provision is made for Electrical Engineering.

The average cost of living (including College tuition fees) at Bangor for the Session (33 weeks) is from £30 to £40. A list of registered Lodging-houses is kept at the College. A Hall of Residence for Women, under the supervision of Miss Mary Maude, the Lady Superintendent appointed by the College, will be open next session. For detailed information as to Courses, Entrance and other Scholarships, &c., apply to the Secretary and Registrar,

J. E. LLOYD, M.A.

Bangor, May 17th, 1893.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL,

ALBERT EMBANKMENT, LONDON, S.E.

The WINTER SESSION of 1893-94 will OPEN on TUESDAY, October 3rd, when the prizes will be distributed at 3 p.m. by the Right Hon. LORD THRING, K.C.B.

Two Entrance Science Scholarships of £150 and £60 respectively, open to first-year students, will be offered for competition. The examination will be held on September 27th, 28th, and 29th, and the subjects will be chemistry and physics, with either physiology, botany, or zoology, at the option of the candidates.

Scholarships and money prizes of the value of £300 are awarded at the Sessional Examinations, as also several medals.

Special classes are held throughout the year for the Preliminary Scientific, and Intermediate M.B. Examinations of the University of London.

All hospital appointments are open to students without charge.

The fees may be paid in one sum or by instalments. Entries may be made separately to lectures or to hospital practice, and special arrangements are made for students entering in their second or subsequent years, also for dental students and for qualified practitioners.

A register of approved lodgings is kept by the Medical Secretary, who also has a list of local medical practitioners, clergymen, and others who receive students into their houses.

For prospectuses and all particulars apply to

G. H. MAKINS, Dean.

CLERGY and Parents who wish their Daughters to have a thorough College education, with careful home training, and boarded very moderately, are asked to write for particulars to Miss WILSON, Silsoe Villa, London Road, St. Leonards-on-Sea.

GUY'S HOSPITAL MEDICAL SCHOOL.

The WINTER SESSION begins on Monday, October 2nd.

The Hospital contains 645 beds, 600 in constant occupation.

APPOINTMENTS.—All Hospital Appointments are made in accordance with the merits of the candidates, and without extra payment.

ENTRANCE SCHOLARSHIPS.—Open Scholarships of £100 and £50, in Classics, Mathematics, and Modern Languages; and Open Scholarships of £150 and £60, in Chemistry, Physics, and Biology.

PRIZES are open to Students in their various years, amounting in the aggregate to more than £180.

DENTAL SCHOOL.—A Dental School, attached to the Hospital, affords to Students all the instruction required for a Licence in Dental Surgery.

COLLEGE.—The Residential College accommodates about 50 Students in addition to the Resident Staff of the Hospital. There is in it a large Dining Hall with Reading Rooms, Library, Gymnasium, for the use of the Students' Club.

For Prospectus and further information, apply to the Dean, Dr. SHAW, Guy's Hospital, London, S.E.

THE LONDON HOSPITAL MEDICAL COLLEGE.

The WINTER SESSION will commence on Monday, October 2nd.

The Hospital is the largest general hospital in the kingdom, and contains nearly 800 beds. Number of in-patients last year, 10,079; out-patients, 112,962; accidents, 12,425.

Surgical operations daily. Major operations in 1892, 1,358.

APPOINTMENTS.—Forty qualified resident appointments are made annually. Dressers, clinical, post-mortem clerks, and maternity assistants are appointed every three months. All appointments are free. Holders of resident appointments are also provided free board.

SCHOLARSHIPS AND PRIZES.—Two Entrance Science Scholarships, value £75 and £50, and two Buxton Scholarships, value £30 and £20, will be offered for competition at the end of September to new Students. Numerous Scholarships and Prizes are given annually.

PRIZE SCHOLARSHIPS.—Interest on £5000 will be offered shortly.

FEES.—120 guineas in one payment, or 130 guineas by instalments. A reduction of 15 guineas is allowed to the sons of members of the profession.

Luncheons or dinners at moderate charges can be obtained in the Students' Club. The Students' Clubs Union, embracing all the Scientific, Social, and Athletic Clubs, are available to all Students. The Clubs Union Ground at Lower Edmonton has lately been opened.

The Metropolitan, Metropolitan District, East London, and South Eastern Railway Stations are close to the Hospital and College.

For further information apply, personally or by letter, to

MUNRO SCOTT, Warden.

Mile End, E.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL,

HYDE PARK CORNER, S.W.

The WINTER SESSION will commence on Monday, October 2nd, when an Introductory address, in commemoration of the centenary of John Hunter, will be delivered by Mr. TIMOTHY HOLMES, F.R.C.S., at 4 p.m.

The following Entrance Scholarships will be offered for competition in October:—

1. A Scholarship, valued £145, for the sons of Medical Men who have entered the School as *bona fide* first year Students during the current year.

2. Two Scholarships, each of £50, open to all Students who have commenced their medical studies not earlier than May, 1893.

3. Two Scholarships, valued £85, for Students who, having been signed up for or previously passed the Oxford 1st M.B. or the Cambridge 2nd M.B., have entered the School during the current year.

The following Exhibitions and Prizes are also open to Students:—The William Brown £100 Exhibition; the William Brown £10 Exhibition; the Brackenbury Prize in Medicine, value £32; the Pollock Prize in Physiology, value £18; the Johnson Prize in Anatomy, value £10. 10s.; the Treasurer's Prize, value £10. 10s.; General Proficiency Prizes for first, second, and third year Students, of £10. 10s. each; the Brodie Prize in Surgery; the Acland Prize in Medicine; the Thompson Medal; and Sir Charles Clarke's Prize.

All hospital appointments, including the four House Physicianships and four House Surgeonships, are awarded as the result of competition, and are open to the Students without additional expense of any kind.

Clerkships and dresserships, and all the minor appointments, are given without extra fees. Several paid appointments, including that of Obstetric Assistant, with a salary of £100 and board and lodging, are awarded yearly upon the recommendation of the Medical School Committee.

Prospectuses and fuller details may be obtained by application to

ISAMBARD OWEN, M.D., Dean.

WESTMINSTER HOSPITAL MEDICAL SCHOOL,

CAXTON STREET, S.W.

The Winter Session commences on October 2nd, and the Summer Session on May 1st. Students can enter at any date.

The Composition Fee for the entire course of Hospital Practice and Lectures may be paid in one sum (£115), or by two or three instalments. (See prospectus). All Hospital Appointments are open to Students without extra payment.

Two Open Entrance Scholarships in Arts, value £60 and £40, are offered for competition on September 28th and 29th; and Two Open Scholarships are offered for competition in Science, value £60 and £40, in April.

For prospectus and particulars, apply to

W. G. SPENCER, M.S., Dean.

THE MARIA GREY TRAINING COLLEGE,

(LATE 5 FITZROY STREET, W.)

SALUSBURY ROAD, BRONDESBURY, LONDON, N.W.

A FULL COURSE of TRAINING, in PREPARATION for the CAMBRIDGE TEACHERS' CERTIFICATE, in the Theory and Practice of Teaching, is offered to Ladies who desire to become Teachers

Kindergarten Teachers are also prepared for the Higher Certificate of the National Froebel Union. Junior Students are prepared for the Cambridge Higher Local Examinations.

Scholarships offered in all Divisions.

College Year begins September 13th, 1893.

Address—PRINCIPAL, The Maria Grey Training College, Salusbury Road, Brondesbury, N.W.

BEDFORD COLLEGE, LONDON (FOR WOMEN),

8 AND 9 YORK PLACE, BAKER STREET, W.

Principal—MISS EMILY PENROSE.

The SESSION in the College, Art School, and Training Department, will begin on THURSDAY, OCTOBER 5th, 1893. Students are expected to attend on Wednesday, October 4th, at 2 o'clock, to enter their names.

TRAINING DEPARTMENT.

This Department provides a Professional Training in Teaching for Women. Students can enter in October and January, and are prepared for the Teaching Examinations held by the Universities of Cambridge and of London.

ART SCHOOL.

Professor—G. ALBERT LAUNDY.

Classes for Drawing and Painting from Casts, and from the draped living model, will be held. Lectures will be delivered during the Michaelmas and Lent terms.

EVENING LECTURES.

Evening Courses of Forty Lectures each will be given twice a week in Chemistry, English Language, German, Latin, and Mathematics.

LUCY J. RUSSELL, *Honorary Secretary.*

TRAINING SCHOOL for KINDERGARTEN TEACHERS at

13 YORK PLACE, PORTMAN SQUARE, W.

From October 1893 the Camden House Training Classes will be devoted to the Theory, Practice and Methods of Teaching to be used in Kindergarten and Transition classes, in accordance with the Pestalozzi-Froebel Principles.

It is proposed to deal with ten of the following subjects each term:—Gifts, Form, Number, Games, Occupations, Sol-fa, Nature, Drawing, Colouring, Recitation, Reading, Writing, Geometry, Design, Brush-work.

All classes are open to externs. Special arrangements made with Training Colleges.

For further particulars apply to Miss FRANKS.

THE FROEBEL TRAINING SCHOOL OF PRIMARY INSTRUCTION,

11 NORLAND PLACE, HOLLAND PARK GARDENS, UXBIDGE ROAD.

Term begins September.

For all particulars, address Madame MICHAELIS.

PROFESSIONAL TRAINING FOR GOVERNESSES.—HOME AND COLONIAL TRAINING COLLEGE.—Department for Secondary Teachers, Gray's Inn Road, London, W.C.—Training in Science and Method of Teaching, with model Lessons, &c., &c. Examination for Certificates. Preparation for Cambridge Higher Local and other Examinations. Special arrangements for Kindergarten. Boarding House. Term begins 12th September, 1893. Particulars from the Rev. the PRINCIPAL, Gray's Inn Road, W.C.

**SOCIETY OF APOTHECARIES
OF LONDON.**

The next Examination in Arts will be held at their Hall, Blackfriars, E.C., on Friday and Saturday, December 1st and 2nd, 1893.

This Examination will qualify Candidates for Registration as Medical Students.

After January, 1892, the Examination must be passed as a whole, no separate subject being allowed.

A Syllabus may be had upon application.

C. E. ARMAND SEMPLE, B.A., M.B., Cantab.,
Secretary to the Board.

**HIGHER CAMBRIDGE LOCAL
EXAMINATION.**

Students are prepared at the Classes in connexion with the North London Collegiate School for Girls, under the superintendence of Miss Buss. Also for the Examinations of the Froebel Society, with daily practice in Kindergarten work. Arrangements made for ladies to board in the neighbourhood.

For particulars apply to the Headmistress—

Miss TOPLIS, L.C.P.,

145 Camden Road, N.W.

TO HEADS OF SCHOOLS AND FAMILIES.

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PROFESSEURS DE FRANÇAIS

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OXFORD LOCAL EXAMINATIONS.

LONDON COMMITTEE (BOYS).

The Regulations for 1894 can be obtained from the Secretary,

E. LAYMAN, Esq.,

1 Garden Court, Temple, E.C.

**BANGOR WOMEN'S HOSTEL
COMPANY, LIMITED.**

The new Hostel in Upper Bangor, for Women Students of the University College of North Wales, will be open in September under the Management of Miss MARY MAUDE, who has also been appointed, by the College, Lady Superintendent of all the Women Students.

For information, apply to Miss MARY MAUDE, University College, Bangor.

The College Entrance Scholarship Examination commences on September 19th.

VISITING MASTER disengaged.

English, advanced Arithmetic, Practical, Mathematical, Military, or Commercial Subjects; Hindustani, Sanskrit.—Mr. WILSON, 39 Moreton Street West, S.W.

MISS ARDLEY, Certificated Art

Teacher, gives LESSONS (London or Suburbs) in DRAWING and PAINTING, Oil or Water-Colour. Pupils prepared for all Art Examinations. Experienced. Address—A. Y., "Educational Times" Office, 89 Farringdon Street, London, E.C.

WANTED, in a Grammar School

(Lanes.), YOUTH of 18, good at Drawing and Shorthand (Pitman's). State full qualifications and salary (non-resident) to X., "Educational Times" Office, 89 Farringdon Street, London, E.C.

EXPERIENCED MUSIC MISTRESS

(L.R.A.M.), requires Re-engagement (non-resident). School or Private Family. Piano and Theory (Harmony and Counterpoint). Letters addressed—E. C., "Educational Times" Office, 89 Farringdon Street, London, E.C.

A PARTNERSHIP is offered in a

very successful School on the South Coast to an Honour Graduate of Oxford or Cambridge. A gentleman who is a good cricketer preferred. Address—MAGISTER, Riverside Villa, Lustleigh, South Devon.

THE HEADMASTER of a well-known

and important School would like to receive and thoroughly educate a son in exchange for his daughter. Address—A. B., Marine Villa, Paignton.

CHIEF SUCCESSES

RECENTLY GAINED BY

**University Correspondence
College.**

MATRICULATION, JUNE 1893,

139 Students passed.

U.C.C. Students have recently taken the 1st, 2nd, 5th, 8th, 10th (twice), 13th, 17th (twice) places in Honours.

INTER. ARTS, 1893,

119 Students passed.

20 in Honours, with one First Place.

B.A., 1892,

123 Students passed,

28 in Honours,

with two First Places in First Class Honours.

M.A., 1893,

11 Students passed.

INTER. SC. AND PREL. SCI., 1892-93,

During this Session, **179** Students passed,

13 in Honours.

(At Prel. Sci., Jan. 1893, all in the First Division were U.C.C. Students.)

B.SC., 1892,

25 Students passed; **9** Students took Honours.

INTER. LAWS AND LL.B., 1893,

15 Students passed, **3** in Honours,

Two obtaining marks qualifying for the University Exhibition.

The College Calendar, Pass Lists, a Copy of the College Magazine, and further information, may be had from the

SECRETARY,

(Univ. Corr. Coll. London Office,)

32 Red Lion Square, Holborn, W.C.

CARLYON COLLEGE.

KERIN & LYNAM,
57 AND 58 CHANCERY LANE.

LONDON UNIVERSITY.

MATRIC. (1894), B.A. and B.SC. (1893) Revision Classes begin Sept. 4. INTER. ARTS, INTER. SC., B.A. and B.SC. (1894) Classes begin Oct. 2. Afternoon and Evening. Preliminary Greek Class, Oct. 2.

Specially compiled Papers are set every week for each Class, and are done and corrected out of Class.

Special attention paid to Legal and Medical Preliminaries, University and Hospital Scholarships, Civil Service Examinations, Royal University, Ireland, and A.C.P.

Prospectus and list of lecturers on application. The Principals may be seen any day between 11 and 1 and 2.30 and 6 p.m., or by appointment.

New Laboratory fitted with electric light and supplied with all requisites for practical work. Laboratory Practice can be had.

Under the direction of R. C. B. KERIN, B.A. Lond. First of First Class Classical Honours at Final, Editor of "Phaedo" and "Pro Plancio," and J. DEIGHAN LYNAM, M.A., Honourman in Mathematics and Modern Languages, author of "Short Notes on B.A. Mathematics"; assisted by First Class Honourmen.

SUCCESSES.

B.A. LOND., 1891 & 1892, 5 successful.

MATRIC. LOND., 1892 AND 1893,
16 out of 26.

INTER. ARTS AND SCIENCE, 1892, 3 successful; 1893, 5 successful, 2 in Honours—
One with Double Honours, First and Third Class.

SCIENCE SCHOLARSHIP, GUY'S HOSPITAL, 1892,

OXFORD CLASSICAL SCHOLARSHIP 1,
OXFORD RESPONSIONS 2.

TUITION BY CORRESPONDENCE.

—Thorough Preparation for A.C.P., Pupils' Examinations, Matriculation, Musical, Civil Service, L.L.A. (Ladies), and other Examinations. Single subjects specially taught; e.g., Education, Scripture, Languages, Mathematics, Drawing, Science, Theory of Music, Harmony, Shorthand, Bookkeeping, &c. Personal tuition if desired. Terms moderate. Address—The SECRETARY, 14 Oxford Road, Finsbury Park, London, N.

GEORGE HEPPEL, M.A., Wrangler,

Member of the Mathematical Society, visits and receives Pupils. He undertakes Mathematics, Moderate Classics, French, and Geometrical Drawing.—Bolton Lodge, Grove Park, Chiswick.

ELOCUTION.

MISS ANNIE RUTTER, Dramatic
Reader, Teacher of Elocution and Voice Culture.

"Wonderfully successful with her pupils."—*Daily News*.

"I have no hesitation in saying you will be pleased with her services."—FANNY STIRLING, London.

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Central, quiet, and well appointed. Bedrooms from 1s. 6d to 3s. Breakfast or Tea from 1s. 3d. to 2s. Full Tariff and Testimonials on application. Proprietor, J. TRUSLOVE. Telegrams, "Truslove, London."

SHARES in the Educational Supply

Association for sale on favourable terms. Address—G. B., 32 St. Michael's Road, Bowes Park, N.

UNIVERSITY OF ABERDEEN.

SESSION 1893-94.

Chancellor—His Grace the DUKE OF RICHMOND AND GORDON, K.G., D.C.L.

Lord Rector—The Most Honourable the MARQUIS OF HUNTLY, P.C., LL.D.

Vice-Chancellor and Principal—Sir WILLIAM DUGUID GEDDES, LL.D., D.LITT.

THE UNIVERSITY of ABERDEEN, founded in 1494-95, possesses under its Charters the amplest privileges claimed or enjoyed by any Academic Institution. It confers Degrees in ARTS, MEDICINE, SCIENCE, LAW, and DIVINITY, and also grants the Diploma in PUBLIC HEALTH, under conditions found detailed in the "Calendar."

In the case of Students preparing for the Indian and Home Civil Service, the general course of Instruction has been found useful and advantageous, as is shown by the circumstance that, in the former of these Services, FIFTY-THREE of the Valuable Appointments thereto belonging have, since 1856, fallen to Students trained at the University of Aberdeen.

In Medicine, at the Army Medical School at Netley, Twenty Aberdeen Graduates have come out First Men in the course of Fifty-Eight Sessions.

The Ordinances of the Scottish Universities Commissioners of 1889, regulating Degrees in Arts, Science, and Medicine, came into force at the beginning of the Winter Session 1892-93. By these Ordinances considerable changes have been made in the Curriculum of Study.

Important Additions have recently been made to the University Buildings, and further University Extension will shortly be carried out at a contemplated cost of £100,000.

FACULTY OF ARTS.

The NEXT SESSION in this Faculty commences 16th OCTOBER, 1893, and closes 20th MARCH, 1894.

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The Educational Times.

EARLY in the past month an important letter was written by the Secretary of the Charity Commission to the Clerk of the Mercers' Company, respecting the "scheme" to which we called attention in our issue of June 1st. The letter announces that "the Charity Commissioners have carefully considered the various communications which have been addressed to them in reference to the draft scheme published by them under the powers of the Endowed Schools Act for the future administration of the endowment of St. Paul's School," and it states, "for the information of the Governors, the course which the Commissioners propose to adopt in dealing with the objections which have been raised to certain provisions of the draft."

The Commissioners have promptly given a careful and fairly impartial consideration to the objections urged by able and experienced educators against their former scheme, and without any loss of dignity they frankly admit that the modifications they propose to introduce are due to the justice of the arguments which have been brought before them. Many who are particularly interested in the continued prosperity of St. Paul's School, like the Chairman of the Governors, read in that draft scheme nothing but disaster for the school concerned, and many who have broad views on educational matters, and desire that sound and real progress in the best forms of education shall be unimpeded and well sustained, looked upon the proposed scheme as a check to the advancement of classical education.

Both classes will be relieved by the announcements now published. The letter withholds the relief, however, while through six paragraphs it "recounts the circumstances which have led to the proposal of a new scheme at so early a date after the migration of the school to its present site at West Kensington," but we find little deserving of note or comment in these historical paragraphs, and would have preferred a clear statement of the educational principles on which the

Commissioners intend to act in this and similar cases. The relieving clauses are as follows:—

"The publication of the draft scheme [say the Commissioners] has shown that any limitation of the competition to boys from a special class of schools is regarded with apprehension by many who have the interest of the School at heart, and, although the Commissioners do not share all the fears that have been expressed, they will amend the clause dealing with this matter so as to omit the requirement of a distinct examination for boys from schools of a particular class, and will rely upon a general requirement that, as regards one-third of the scholarships, special weight in open competition shall be assigned to subjects (excluding Greek) proper to the modern department.

"On the other hand, the Commissioners think that effective provision may properly be made for the promotion of boys and girls from public elementary schools to the new Dean Colet's Schools, and it is proposed to assign half the scholarships in each school to boys or girls, as the case may be, educated at such schools. Power will also be given to add a money payment in case of need to the value of the scholarship, not only in Dean Colet's Schools, but also in St. Paul's School itself. As compared with the privilege offered in Clause 75 of the published draft, it is considered that the new provision will be of greater benefit to the poorer classes in London.

"In the draft scheme as published, no provision is made for exhibitions from St. Paul's School over and above those on the foundation of Lord Campden. Words will be added expressly authorizing the granting of other exhibitions, out of the general revenues of the School.

"It remains to state that the Commissioners have given their best consideration to suggestions which have reached them with regard to the constitution of the governing bodies of this endowment. The revised draft scheme will retain in the exclusive control of the Mercers' Company the administration of the estates forming the Colet endowment, together with that of Lord Campden, but, for the management of St. Paul's School, in the place of three Wardens of the Company holding office *ex officio*, provision will be made for the appointment from time to time of three Governors by the London County Council. Thus the existing number of twenty-two Governors will be preserved."

We give the Commissioners credit for the tact with which they have dropped the most objectionable and most dangerous of their first proposals, and we hope they will go yet a little further in the way of amendment. It is always easier to scatter and to destroy than to build and to create, and the Charity Commissioners often have a very difficult task to steer clear of the indications of the many educational reformers who look solely to one kind of problem and to one set of interests. It is reassuring, therefore, to find them recognising the fact that "the limitation of the competition to boys from a special class of schools is regarded with apprehension." The right tendency is to abolish class distinctions in educational competitions. For instance, in the new scheme for Westminster, which is just announced, the necessity for such abolition is one of the fundamental grounds for the proposed changes.

This view harmonizes completely with Dean Colet's object in founding St. Paul's School. The expressed intention was to benefit "the children of all nations and countries indifferently." No child, however, was to be admitted unless he could read and write Latin and English sufficiently," and if a child, "after reasonable season proved, be found unapt and unable to learning," he was to be removed.

Hence, it is clear that ability and attainment were to be the tests. It would be contrary to the enlightened founder's intentions, as well as to the healthiest tendencies of modern times, to treat poverty as a higher virtue than industry—to let, for instance, one competitor, A., earn ninety marks for ability and attainment, and another, B., fifty marks for ability and attainment, and then to add to the latter's marks fifty for poverty, and so elect B. over A. By all means, let all necessary additional pecuniary help be given to the poor but able scholar, and take care that poverty does not stand in the way of talent, but let the aid have its right name, and

let it be granted after the proof of ability. Only so can the high standing of St. Paul's School be raised still higher. The needs of the exceptional scholars in the elementary and intermediate schools, who would profit most by a sound classical education, would be best served by the establishment of a preparatory school, under the same foundation, and under the same headship as the school to which they desire admission. The scholars passed on from the lower schools must necessarily be selected at an early age, and be specially prepared. The leaving exhibitions from their first schools might maintain them at the preparatory school until they could compete for junior or senior Collet's Exhibitions at the ages of fourteen or sixteen. If they failed at sixteen, they might pass off to business, and no serious harm would be done them, as they would not be permanently diverted towards a profession in which they could not succeed. But the proportion failing at sixteen to renew their exhibitions would be very small indeed if the selection in the lower schools were always to be carefully made and based solely on *literary* capacity, boys with other kinds of ability being advanced along other lines. The establishment of the classical preparatory school seems to us to be absolutely necessary if the Commissioners' objects are to be secured without lowering the standard for admission to St. Paul's. And, again, in this as in a former point, the new scheme for Westminster lends strength to this method of giving the desired opening for the potential classic from the elementary schools. Westminster is to become a day school, and the Queen's Scholarships are to be transformed into well-endowed exhibitions for day boys. To make it possible that an artisan's child of character and literary capacity may have the assured future which the gaining of these exhibitions would afford, the preparatory school is wanted. To try to accomplish the result without this provision, will most certainly be to lower the standing and achievements of the school and to make the exhibitions less valuable.

There are two other suggestions we have to make on the scheme foreshadowed in the letter under discussion. The Commissioners would do well to maintain this school by means of the most liberal endowment they can give it as a classical school. The demands for technical and commercial education, reasonable and necessary as they are, ought not to affect it. These new systems of education, sprung from the new conditions of existence peculiar to our times, though differing both in the aim and the means employed from the old well-trying form of higher instruction, have very properly been allowed to take their places alongside the older system as its recognised complement. Their promotion has as yet had the happiest results, but they may be forced beyond the goal originally set for them, and be made to disturb and deteriorate what has again and again been shown to be the best possible training for the professions and the higher services of the State. It should be the object of all real friends of education to advance the older system as they advance the new, to aid such a school as St. Paul's, by a clearer recognition and by more liberal endowments, to a higher success, as well as to supplement it by Technical and Commercial Institutes. It is the more unnecessary to trouble about the modern department of this school because it is a metropolitan day school, and in its neighbourhood at South Kensington there is the highest and best Technical School in the country, as well as one of the best Science

Schools and the best School of Art. With these it cannot and ought not to compete. But, thanks to the influence and distinguished personality of its High Master, it has ranked itself with the best of the classical "public" schools of the country. London cannot afford to allow a school of this description to be degraded, and the efforts of the Charity Commission and of Parliament should be exhausted to maintain and advance it.

The remaining point we have to urge concerns the governing body. Three members of the County Council are to be added. There is little to object to in this proposal, but, as we pointed out recently, the Endowed Schools Commissioners long ago made an excellent suggestion which might well be adopted at the present time. It is that one of the Governors should be a paid nominee of the Crown. Only by this plan can we secure the services of a talented specialist in education to represent public interests, and to serve as eye and ear of the authority responsible to Parliament and the country. Such officials, up and down the country, would, as experts, have great influence in systematizing the higher education, and ultimately would be valuable advisers to the Minister of Education. We are, as educators, grateful to the Commissioners for the mercies foreshadowed in their letter, and hope the adoption of these suggestions will be added to them.

It is to be feared that the verdict in *Hughes v. Bangor*. Vernon can scarcely be accepted as terminating what, in its early stages, was called the new "Bangorian Controversy," and developed, before long, into the "Bangor Scandal." The trial at the Chester Assizes did not show that Miss Hughes was right in her action and the College authorities wrong, for the dispute as between these two parties did not come fully before the court; but in the course of the proceedings it was demonstrated clearly enough to all unprejudiced persons that the allegations which led to the withdrawal of Miss Frances Hughes' license had not been so carefully and impartially sifted by a competent tribunal as to justify the harsh measure dealt out to her. Under these circumstances, the authorities might well have thought themselves justified in proceeding to a fresh investigation, if they did not consider that they had sufficient grounds for reinstating her without further delay. We are loth, indeed, to suppose that it was any consideration for their own dignity—which certainly suffered enough at the trial—that prevented their adopting one or other of these courses; but, whether it was mere pique or not that induced them straightway to appoint a new lady superintendent, and arrange to open a fresh hall of residence, there can be little doubt that they have acted most unwisely. Miss Hughes may be right, or Miss Hughes may be wrong—on this point the public has not the means of forming a sound judgment—but Miss Hughes has been unfairly dismissed.

There is no need for us to enter into the details of the whole deplorable business; a very brief portion of its history will serve to prove our contention.

The actual issue of the libel case may be dismissed with a couple of sentences. The *Weekly Dispatch* accused Miss Hughes of uttering and circulating cruel slanders about a female student, and the *Weekly Dispatch* was made to pay £350 for so doing. It would probably have gone better

with the newspaper, and it would certainly have been better for the College, if no attempt had been made at justification. But the attempt was made, and certain of the College staff were put into the witness box. As our readers are doubtless aware, the matter on which the *Dispatch* based its charges had been the subject of a good deal of consideration in the Council and the Senate. Miss Hughes, in the exercise of what she conceived to be her duty as Principal of the Hall, had made certain statements to an indiscreet Mrs. Rhys about a girl attending the College. She believed she was speaking in confidence, but the substance of her remarks leaked out. There seems to have been no lack of silly gossip about the place, and certain professors felt called upon to take up the cudgels on behalf of the young lady whom they regarded as injured by Miss Hughes's remarks. There was a certain amount of friction at the time between a portion of the College staff and the Lady Principal of the Hall, owing to a very sensible rule made by the latter with regard to the visits of students living in lodgings. With this rule the public is not greatly concerned, for Miss Hughes and her directorate (whose confidence she has retained throughout) were practically independent of the College as regards the internal discipline of the Hall; but Professor Arnold and Principal Reichel, in their characters as directors of the Hall, were able to call a meeting of the directorate to consider the working of the rule, in the course of which meeting Miss Hughes, at the desire of her directors, was called upon to make a statement about the rumours mentioned above. A committee of the directors was appointed to hear the young lady's side of the matter, and, as a result of their report, the directors expressed their confidence in Miss Hughes by a formal resolution. Before the report was issued, however, Principal Reichel wrote demanding an apology for and the retraction of statements which Miss Hughes denied making. Of course this demand was not complied with, and one cannot blame Miss Hughes for entirely disregarding a missive which her legal adviser looked upon as containing veiled threats. Then her adversaries brought about a Senatorial inquiry, which, had it been properly conducted, would probably have arrived at a sensible conclusion. But both the gentlemen mentioned took part in its proceedings (before which Miss Hughes was not invited to appear in the early stages of the inquiry), and after threatening her, and having plainly come to a conclusion on the case, were combining the functions of witnesses, accusers, and judges. A few lines from Mr. Justice Charles's summing-up will show how rightly Miss Hughes acted in refusing to take any cognizance of such a court, when at length it invited her to appear:—

"For the first two or three meetings of the Senate, these two gentlemen occupied a double capacity. They sat and joined in the resolutions, and gave evidence, amongst other persons, to themselves. The impropriety of that seemed to have struck them, and they retired about the third meeting. This was no implication upon them, but it prevented the tribunal being of a judicial character. When the resolutions of the Senate upon the matter were formulated, Professor Arnold was one of those chosen to formulate them."

"It prevented the tribunal being of a judicial character." Under these circumstances is it too much to say that the proceedings were a "travesty of justice," and that the Council acted most unwisely in making the report of this body the basis for their dismissal of Miss Hughes?

The matter can hardly be allowed to rest here. The gentlemen most concerned ought surely to recognise that

the College must not suffer for their foolish behaviour, even if they are not anxious to rectify the injustice for their own sakes. Already six or seven of the most influential governors—including the Duke of Westminster, Lord Penrhyn, Col. Sackville West—have sent in their resignations, and there is no doubt that the institution is likely to lose in funds as well as friends. And its reputation as a fitting abode for young students of both sexes will scarcely be the gainer by the publication of the semi-prurient tittle-tattle which formed the staple of the case.

NOTES AND SUMMARY.

WHAT with Bangor affairs, the Secondary Education Scheme, and the Draft Charter for a Welsh University, the Principality has this last few weeks engrossed most of the attention of persons interested in education. The draft of the University Charter is much what it was expected to be; it is not to receive the Royal assent without opposition, and it seems probable that it may undergo modification in one or two important particulars. In some quarters resentment is felt at the exclusion of Lampeter, which exclusion is based on its "denominational" character. Other objectors hold that provision should be made for granting degrees without residential qualifications. As at present arranged, the whole control of the University will be in the hands of Aberystwith, Bangor, and Cardiff, and degrees will only be granted to students attending the University colleges there.

* * *

It is a little difficult to understand on what argument the promoters of the scheme would exclude the "unattached." Without necessarily favouring the establishment of a new degree-granting examinal board, it seems to us that all the reasons which render a "Welsh" degree desirable for students at the Welsh colleges apply with equal force to their less-favoured fellow-countrymen. On the other hand, if it be contended that Burlington House would admirably suit the modest needs of the one class it is difficult to see why it will not serve the purpose of the other. If the "national" or "local" argument is to be held a valid one (which we very much doubt) for creating a new University, all the students belonging to the nationality or locality in question would seem to have equal rights to any benefits it can confer upon them.

* * *

We give elsewhere a reprint of the "Petition," and the more important provisions of the Draft Charter. There is one paragraph to which we should like to call attention, for a reason unconnected with the merits of the scheme. This is Section 7 of the Petition, where it is alleged that during the last academic year one-eighth of the London B.A. and B.Sc. degrees have been gained by students of the Colleges. It may be the exact and literal truth that the Welsh colleges have prepared this large proportion of men and women for the London examinations, but if the statistics are merely compiled from the official University lists they are not to be accepted without external verification. Unfortunately these lists are not only incomplete, but are absolutely misleading. A student who leaves a University college to prepare for the degree by other means is credited to the college.

If the school whose annals are dull is to be accounted happy, Westminster can hardly be reckoned among the fortunate. Ever since Dr. Rutherford's appointment to the headmastership it has succeeded in attracting a good deal of outside attention to its history. Just now, certain "Old Westminsters" are very indignant because the governing body has decided upon abolishing compulsory residence in "College" as a condition for the tenure of scholarships; but the advantages which must accrue from abandoning a state of things quite unfitted to the present needs of a great London school are so obvious that the purely sentimental considerations of old friends of the school ought not to be allowed to impede a necessary reform. Indeed, Westminster has long had cause to pray to be saved from its friends.

THE amateur is always a person to be avoided, but he is rarely

(even when he takes to minor poetry or the violin) very dangerous. There are times, however, when he does become a source of peril, especially if he is a schoolboy dabbling in "natural science." Hence, the wise teacher will take care that the youth entrusted to his care does not get overmuch chance of prosecuting original research (on the school premises) with blowpipes or electric batteries or chemicals in unsupervised hours. A case arising out of the neglect of such precautions occupied the attention of the Queen's Bench at the beginning of last month, afforded an instructive warning to both schoolmasters and parents, and enriched the lawyers.

* * *

It seems that Mr. W. H. Eady, M.A., proprietor of a school at Kenley, in Surrey, left certain bottles of chemicals where some of his pupils managed to get at them. One of these boys thought it would be interesting to ascertain some of the properties of their contents. This was doubtless creditable to him and his teachers, but he showed a too indiscreet thirst for knowledge when he thrust a lighted match into an unknown body. It chanced to be a highly combustible substance, and the cause of one of his companions being promptly "enveloped in flames." The injured boy's parent sued the schoolmaster for damages, which he recovered; but, as he had to disburse a somewhat larger amount on counterclaims for "notice," this did not profit him much. The moral to schoolmasters is that they must bear in mind that proper laboratories are necessary for the teaching of "science"; this is not the first time one has heard of "a sort of conservatory" with "bottles kept on the table," serving that purpose.

Now that the novelty of the "Technical Education" scheme has worn off, it is natural that many voices should be uplifted to declare that we have gone too fast and too far. The complaints of the grumblers are of various kinds. In Lancashire (as in many other places) the enthusiasm for what has been called the New Learning has been apparently confined mainly to the County Council and its paid officers, seeing that for 100 scholarships which were offered to open competition there were only 44 candidates—a state of things which reminds us of a southern county's classes whereat the average attendance was two and a decimal. The Isle of Wight Council has been experimenting with a dairy, and has succeeded in demonstrating to the twenty-three pupils for whose benefit the "school" was instituted, that if you only make your butter scientifically enough you can easily sell it for nearly half as much as the raw material costs you. In Essex the feeling that much money is being absolutely wasted is evidently pretty strong; several Boards of Guardians have passed resolutions that the fund set apart for technical education had much better be applied to the relief of the rates.

THERE is a headmaster in Devonshire who must entertain a very singular idea of his business in life, unless indeed he be misrepresented (as seems probable) by an intelligent but frequently inaccurate press. The Rev. Mr. Warner, of Newton Abbot, has been publicly deploring the state of things that prevails in his own school (which is a boarding-school), and telling the parents, apparently, that they are to blame for it. At Newton Abbot, it appears, the boys apply themselves so assiduously to their studies that it tells upon their health—which is, doubtless, the reason why Newton Abbot does not figure with monotonous frequency in scholarship lists. Not only did one boy "completely break down," while another "said that he worked too hard" (as several young gentlemen have often "said" to the present writer), but "the headmaster and four assistants" also suffered from their devotion to learning. If the headmaster really said this, it must, of course, be true; but if it is true, who on earth is to blame for it but the headmaster himself, whose business it is to see that his pupils have enough exercise and recreation to keep them in health?

* * *

MEANWHILE, several newspapers have taken the headmaster's words as a text for little sermons about "over-study." One journalist draws a heart-rending (and so life-like) picture of "a youth filling his head with knowledge, burning the midnight oil over abstruse mathematical problems, or the study of Greek literature," while he is undermining his constitution and preparing to sink into a scholar's grave. But, curiously enough, nearly all the denunciations of this sort (for a Mr. Warner is exceptional) come from persons who know very little about education and nothing about schoolboys. Those who have a competent

acquaintance with both will tell you that it is the rarest thing in the world to find a boy suffering merely in consequence of being too industrious. So rare is it, indeed, that many teachers doubt whether any such exists. A good many boys (and men) get "out of sorts" by being badgered or worried about work as about other things; but this is a totally different matter, and it is trivial to pretend that anxiety about an examination is the same thing as over-diligence in preparing for it. Over-play, with its accompanying "intellectual vulgarity" (as the Master of Trinity put it the other day), is a much more serious and widespread evil just now than over-work; and neither of them is responsible for a tithe of the moral and physical harm that results from the most pestilential of all schoolboy habits—"loafing."

WHEN the Duke of York comes to the throne it seems probable that he will have a peculiar claim upon the loyalty of many of the rising generation. It is difficult to think unkindly of any one who has given you an extra week of summer holidays, and this has been the effect of the Duke's marriage in many schools. In some cases, indeed, H.R.H. has intervened personally to secure this boon, as, for instance, at the Kingston Grammar School, where a boy "wrote privately" to him on the matter, and "unbeknownst" to masters and governors. On the other hand, it may be that many a parent's mind would get a definitely anti-monarchical bias if Royalty often lengthened the school vacation. And, of course, there is another way of looking at it, though perhaps it would not have suggested itself to any one but such a rigidly conscientious moralist as the editor of a society journal. Thus *Truth*:—

"The idea of the schoolmaster decreeing an extension of the holidays is wrong on the face of it. Parents send their children to school on the understanding that they are kept there for a certain time at a certain price, and the master has no business to alter the terms of the contract without the assent of the other party. Even if the majority of the parents agreed to the holiday, the minority ought to be at liberty to keep their children at school, or else should receive a proportionate reduction of the fees."

IN the United States they believe very heartily in the teaching of patriotism. It lends itself as delightfully as most other subjects to amusing schoolboy blunders. "Who was the first man?" said a Chicago teacher. "Washington," promptly answered the young American. "No," said the teacher; "Adam was the first man." "Oh, well, I suppose you are right," replied the undaunted patriot, "if you refer to furriners."

THEY are playing a new and interesting game just now in the columns of the *Times*, almost as fascinating as the "Missing Word" competition (which it closely resembles) and perfectly free from any taint of illegality. It is called "Misused Words," and it was started by Professor Beesly, who wrote to point out that some people employ "morale" and "locale" and "purview" when they ought not to do so. Then other intelligent persons made the astounding discovery that several other words were no longer used in their correct original senses, and several other still more intelligent persons found fault with the earlier players. They seemed to be keeping it up rather spiritlessly when they descended to finding fault with "connection," "every assurance," and "our mutual friend," but a brilliant rally was got up by a bold bad man who declared that "menu" could only be used as a substantive, and should never be employed to mean a bill of fare. This naturally touched our finest feelings nearly, and the ball was vigorously set a-going again. There seems no reason why it should stop for some years, as the English language consists of some hundred thousand words, largely "borrowed" and all apparently "misused."

SANGUINE persons who expected (as most of us probably did) that the free libraries would do something to cultivate a taste for literature, even if they did not otherwise much serve the cause of education, must be saddened ever and anon by the statistics published concerning them. It is not altogether satisfactory (from the aforesaid persons' point of view) that an overwhelmingly large proportion of the books borrowed should be novels, as is shown by the statement that in a London suburb 4,950 works of fiction were taken out in the same time as it took to move 185 histories, and 306 books on the arts and sciences. But what is to be said when we find, of the novels borrowed, among the greatest favourites are those that have no pretensions to

literary merit. "Rita," for instance, is actually second on the list in a metropolitan district, while in sober Edinburgh "Max O'Rell" is first favourite in what is described with grim humour as the department of general "literature."

SPEECH DAYS are nowadays so many, and the words of the distinguished persons who adorn them with their eloquence so valuable (and numerous), that we have felt quite unable to do them justice by any process of condensation and selection. We have therefore omitted them all with equal impartiality, but we are tempted to make an exception in the case of Mr. Walter Wren's remarks at Stratford-on-Avon. Mr. Wren has apparently succeeded in making a totally new classification of educational subjects. "The study of natural science should precede all others, because the works of God were better worth studying than those of men." The deduction is at least as admirable as the premisses; doubtless we shall not cavil at Mr. Wren's "because" when we have got to the stage of labelling the plays of a certain Stratfordian as the "works of man" and placing our Inorganic Chemistry books in the other category. Mr. Wren considers that these ideas of his are "revolutionary." That does not seem to us exactly the epithet that most fitly describes them.

A MODERN humourist (Mr. H. D. Traill, we think) once drew a picture of the school of the future, where every pupil would have a master to himself, who should be confined to imparting instruction on a limited portion of one subject only. One boy would thus, after ten years' schooling, have a really sound knowledge of the history of the first five years of King Henry VIII.'s reign, while another would have laid the foundation for a searching study of some of the carbon-compounds. The President of the Chicago University would seem to be in favour of some such "specialization":—

"How much better would it be if one institution devoted its strength and energy to the development of history and politics, another to the development of the biological sciences, another to throwing all its efforts into the great field of electricity. As it is, a tenth-rate college in a remote locality announces courses in every department of human knowledge, and students are compelled in self-defence to dabble in everything, rather than do work in a few things."

To most of us this may seem an argument for abolishing "tenth-rate colleges," but hardly a reason for concentrating all the history students and teachers in one "remote locality," and all the mathematicians in another, and so on.

THE secretary of the London County Council Technical Education Board has issued circulars giving details of the encouragement to be given in various departments of scientific and technical knowledge. A perusal of the scheme shows that substantial monetary aid will be given to efficient teachers without hindering their earning the "Science and Art" grants at the same time. The following are among the regulations bearing on the subject:—

"That in the case of approved classes in the subjects mentioned above—viz., mathematics, theoretical and applied mechanics, practical geometry, building construction, machine drawing, naval architecture, chemistry (inorganic and organic), physics, botany, geology, mineralogy, steam navigation, and nautical astronomy, which comply with the foregoing conditions, and with any general conditions which the Board may from time to time impose, assistance be given by the Board to the responsible governing body upon the following scale, viz.:—

"(a) A sum of 6d. per hour for each of the first twenty students attending twenty meetings or upwards of the same class in the same session.

"(b) In those classes in which more than twenty students may attend at the same time a sum of 1½d. per hour for every student beyond the first twenty completing twenty attendances. For the computation of this grant the *first twenty* may be taken to be the twenty students who have made the greatest number of attendances.

"(c) In cases where efficiently equipped laboratory accommodation in chemistry and physics is provided for and used by the students within the institution, to the satisfaction of the Board, an additional grant for maintenance, according to the capacity of the laboratory (as determined by the Board on the report from one of its officers), on the basis of £20 for every student who can be accommodated in the laboratory at the same time.

"The above grants to be in addition to any grants received from the Science and Art Department, provided that no grants be made—

"(a) For a course of fewer than thirty lessons of one hour each.

"(b) In respect of students paying an inclusive fee of more than ten

shillings per session for any one subject, including the practical classes in that subject.

"(c) In respect of more than three classes attended by the same student in the same institution or in different institutions."

* * *

THE Council also intend to establish a large number of school exhibitions. They will begin by awarding 100 to boys and a like number to girls in November next:—

"Candidates must be pupils of public elementary schools within the administrative county, must be under thirteen years of age on the 1st day of November, and at that date must have worked for at least one school year in the fifth or a higher standard, and have attended school with regularity during that period.

"Each scholarship will be awarded, in the first instance, for one year, and will be renewable for a second year if the scholar's conduct and progress are satisfactory to the Board. The scholarships will include free education at such suitable schools as the Board may hereafter approve, and a money payment of £8 during the first year's tenure of the scholarship, and £12 during the second year.

"The names of candidates must be sent to the Secretary of the Board by the headmasters or mistresses of their respective schools not later than October 21st, and must in each case be accompanied by a recommendation from the managers of the schools, certifying that the candidates' parents (or guardians) belong to the industrial classes, and may not reasonably be expected to be able to allow the candidate to continue at school without such aid as the scholarship is intended to provide.

"The selection of the candidates will be by examination of a simple character in subjects within the scope of pupils in the sixth standard. In the case of boys special stress will be laid upon arithmetic."

THE Rev. A. E. Allcock, head of the Modern Side at Wellington College, has been elected to the headmastership of Highgate School, rendered vacant by the death of the Rev. Dr. Charles McDowall. Mr. Allcock was educated at Emmanuel College, Cambridge, graduating as twenty-eighth Wrangler in 1874.

Other appointments to Headmasterships are:—Rev. J. E. Forty, M.A., of the East Riding College, to Hull Grammar School. Rev. C. E. Lucette, B.A., to Bridgwater School; he is at present second master there. Rev. R. C. Perry, M.A., of King Edward's Grammar School, Birmingham, to Worcester Grammar School. Rev. W. H. Bond, M.A., of Borden School, to Churcher's College, Petersfield. Rev. C. Ridley, to Aylesbury Grammar School. Rev. G. A. Stocks, of Barrow High School, to Lancaster Grammar School. Rev. T. J. Thorburn, of Sheffield Grammar School, to Caistor Grammar School.

* * *

THE Rev. J. B. Armstrong, M.A., of the Irish Church Missions' Training College, has assumed the office of Principal of the Home and Colonial Training College, in succession to the late Rev. W. R. Blackett.

* * *

MISS MARY MAUDE has been appointed Lady Superintendent of the women students of Bangor University College. In accordance with the resolution of the Council of June 21st, 1893, Miss Maude becomes also head and manager of the new Women's Hostel to be opened in September next in Upper Bangor.

* * *

MISS M. M. JAMES, of Sunderland High School, has been appointed Headmistress of the High School at Dewsbury.

MOST of us probably believe that clever young University men who go into the Civil Service do so because they like the life and salary and position and the chances of a distinguished career. A contemporary, however, has quite a different (and we are bound to say, a much more entertaining) explanation. "Why should the most brilliant scholars of their year condemn themselves to such a life and their talents to such ignoble use [as 'a clerkship involving mostly mechanical work'] when they ought to gain them both fame and fortune in one of the learned professions? I was having a talk with an old civil servant about this the other day, and he explained the puzzle correctly, but in a fashion hardly satisfactory to the British taxpayer. These young men are usually those who are endowed with far more brains than money. Many of them win a Fellowship before they leave the University. Then they spend a few weeks with a crack crammer to learn the ropes, go in for the examination at the highest pitch of intellectual training, and very naturally find themselves well up in the lists when the result comes out. After this, to quote the old saying, they emulate the fountains in Trafalgar-square, by playing from ten to four. They draw their salaries, take their holidays, and qualify for a pension; and meanwhile they devote a large portion of their ample leisure to qualifying for the Bar or making their first essays in literature or journalism. The income which they so easily earn from the Government enables them to wait for success without the slightest apprehension, and then when they have tangible success well within their grasp they bid adieu to her Majesty's Service, with or without

thanks for the use of a very comfortable and convenient stepping stone, and take the talents which the Government fondly hoped it had secured to a more congenial and more lucrative market."

THE Charity Commissioners have published a draft scheme for the reorganization of the Colchester Grammar School. It makes the usual provisions for the election of a governing body, the regulation of the curriculum, and the appointment of a headmaster. The headmaster is to have sole power of appointing assistant masters, and his salary to be £150 a year, with a capitation grant—uniform or graduated, as may be fixed by the Governors from time to time—at a rate of not less than £3, nor more than £5, per annum for each boy. Tuition fees to be not less than £8 a year, and not more than £15.

THE Kent County Council have completed the arrangements by which they propose to extend their elaborate scheme of technical education by the establishment, jointly with the Surrey County Council, of an Agricultural College at Wye. The idea is to provide a centre of agricultural science at which practical instruction will be given to resident and non-resident scholars, and from the professional staff of which will be drawn lecturers to visit the towns and villages of Kent and Surrey. The College itself will become a seat of scientific research, for the testing and examination of soils, manure, seeds, and products. The government of the College is vested in Lord Winchelsea, hereditary Governor, nine representatives of the Kent County Council, six of the Surrey County Council, two of the Universities of Oxford and Cambridge, one of the Royal Agricultural Society, and one of the Bath and West of England Society and Southern Counties' Association.

THE Charity Commissioners have issued the final scheme for creating a Central Board of Secondary Education for Wales and Monmouthshire, which will come into force when all the various county schemes of secondary education are completed. At present only two such schemes are completed, the others being delayed by petitions against them. The Central Board will consist of fifty-seven representative members, three *ex-officio* members, and six cooptative members. Religious opinions are in no way to affect the qualifications of the members of the Board. The County Councils of Wales are to have one representative each, while the two large counties, Glamorgan and Monmouth, will have additional members, Glamorgan three and Monmouth two respectively. The county governing bodies under the schemes under the Welsh Act will have one each, Glamorganshire having two and Monmouthshire one additional member. The headmasters of county schools of North Wales will have one representative, and those of South Wales two; the headmistresses of county schools in Wales having one only. The councils and the senates of the three University colleges will each have one representative (six in all); Jesus College, one; and the University of Wales, when constituted, six. Women may be members of the Board.

THE forms of entry for the Cambridge local examinations in December next are now in the hands of the local secretaries at the several centres. The examinations will all commence on December 11th. The forms of entry for the Senior and Junior Local Examinations and the Commercial Examination are to be returned to the local secretaries at the several centres on or before September 30th. Forms will be accepted from October 1st to October 14th inclusive on payment of an additional fee of 5s., and from October 15th to October 25th inclusive on payment of an additional fee of 10s. The forms of entry for the Higher Local Examination (Groups B and C, languages and mathematics only) are to be returned on or before October 31st; this examination will only be held at centres where the local committee are willing to admit candidates for it, the complete Higher Local Examination being held in June in each year. The Regulations for the several examinations may be obtained from the local secretaries at the centres of examination, or from Dr. Keynes, Syndicate Buildings, Cambridge.

THE following remarks from an American paper give a much higher estimate of the cost of University education in the States than is usually entertained here:—"A young man of good family generally expects to spend at Harvard from 1000 dols. to 1200 dols. a year; this allows nothing for the expenses of the vacation season, but covers suppers, cigars, and spears in Boston. At Cornell, boys constantly go through college on 400 dols. a year, and there are promising students at the Stanford University or at Berkeley who do not spend much more. There is not so much difference between the sums spent by girl students and by young men. At Wellesley and Smith, parents are told that they must reckon on an expenditure of 500 dols. a year for each student; the Vassar girls generally reckon on 800 dols. a year, and the girls at Bryn Mawr on 1000 dols., or even more. Of course the girls save what the boys spend for cigars and creature comforts. They are also relieved of extravagant expenditure for dress, as elaborate dressing is not encouraged by the college authorities; but, as every female college gives a ball or two in the season, while receptions and dinners are not uncommon, a girl who can afford it can get through a good deal of money at the milliner's before she graduates."

CORRESPONDENCE.

SCHOLASTIC ISOLATION.

To the Editor of the Educational Times.

SIR,—With the possible exception of the minister of religion, no kind of man has been, and is, so exhaustively criticised as the schoolmaster. Individually and collectively he is worked over, no detail neglected, from his collars to his conduct of his immortal soul. The informal council of the parent, the pupil, and the disinterested relation is always in session, and to these has been added the educational writer. Beside the schoolmaster the general practitioner in a village is a free man. Even over the boundary of his professional duties he is pursued, and his behaviour in society, and his vacation employments, are the matter of well-nigh classical criticisms. He carries too much of the tone pedagogic into his lay conversation—that is an old complaint, and now there is added that he gathers himself together in his vacation in conferences, guild meetings, and the like, preferring his own kind to common humanity. Moreover, someone has discovered that he marries, with singular frequency, within his class. Doctors do not marry lady practitioners, nor the clergy sisters of mercy; masculine artists would sooner marry their models than their proper feminine equivalents—but statistics show that those who profess education mate within their calling more than any other kind of people. This is made a reproach to us. It is stated—and nothing could be more evidently false—that schoolmasters and mistresses are inflated by their schoolroom authority until none but teachers are good enough for them, that other adult humanity is to them merely so many fugitives, across an age limit, from salutary discipline, and the like.

But the truth of all this is, it is not the schoolmaster who has, in disdain, cut himself off from common men, but the general public which has, to a perceptible extent, put us in a class apart. It is the perpetual sense of criticism, and the absurd conceptions formed by the public of what a schoolmaster should be, that give so many of us the air of being consciously not as other men. The public *will* have its schoolmaster Sabbatical in garb, loving them best when they seemed to be clad, morally and physically, in ready-made mourning; its ideal teacher may not sing nor play nor dance. If he smoke at all, he smokes after bedtime up the chimney, and that mild tobacco. And their conception of our range of conversation is peculiar. We are supposed to delight especially in etymology, the verification of quotations, and nice questions of pronunciation; and talk in which we join is commonly politely wrenched round to these our topics. Moreover, it is expected of us that we should speak with language of unnatural polish, and our spelling and our handwriting must be devoid of the grace of variety.

As for wit, a witty schoolmaster is to the public eye clearly an immoral one, though a special kind of joking, as gay as the distant firing of great guns, is allowed him. These are some of the many conventions that are forced upon us. We must observe them, because no teacher can educate if he is not trusted with pupils, and so it is not of choice but necessity that many of us wear at least the exterior aspect of prigs. With the parent, that is, the public, the teacher is always on his guard, lest it be discovered that he is, after all, but a mortal man, and "the imagination of his heart only evil continually"—just as the parent's is. Of course where the parent is educated this isolation is at its least; the happy few in the upper ranks of the profession can almost afford to be taken for common men, and it is mainly upon the teachers of the children of the lower middle and working classes that this burthen falls, of being set apart in a deliberately "superior" class from ordinary humanity. Thus it happens that we are very much alone, and we must seek our fellow teachers in order to unbosom ourselves and let the bow of behaviour unbend. Teachers gather with teachers, and marry teachers, for no love of the teacher, but of humanity. Among ourselves we can set aside the armour of solemnity the public has made us wear, and taste the dear delight of human intercourse without pretence. That is the true and honourable reason of that isolation of which the critic unreasonably complains, and, indeed, no vain sense of superiority such as he suggests.

I am, Sir, &c.,

H. G. WELLS.

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AT THE ROYAL COLLEGE OF SCIENCE.

BY AN OLD STUDENT.

THAT tall and stately mass of masonry in the Exhibition Road which formerly bore the title of the Normal School of Science and Royal School of Mines, was, a year or two ago, re-christened the Royal College of Science, and the change may be seen visibly effected in a handsome mosaic label on the right hand bottom corner of the building. The Students' Union and others protested against the implication that its science school was anything but regal, and its mining abnormal, and the associated alumni of its scientific members found something objectionable in their being written down A.N.S.S. But in the days of the writer the place still had its composite title; there was no Students' Union, and the miners went to lectures in Jermyn Street, and kept themselves to a considerable extent apart from the newer contingent. The awe-stricken teacher-in-training might then pass "Huxley" on the staircase every other day, and the science of physics was taught by Guthrie and chemistry by Frankland. Possibly, therefore, this article may not be strictly "up-to-date"; there may have been alterations that have escaped me since those days, though I have always had my eye affectionately upon the place.

My first impression, when, as a "teacher-in-training," in accordance with the minute instructions of My Lords of the Education Department, I presented myself, duly provided with a cheap shiny handbag containing a quarto note-book, coloured pencils, and a box of appliances, at 9.30 precisely, in the hall of that red-brick building, was Grummett. This bright and energetic person may be best described as the Angel of the Gate. He was flitting to and fro through a chaos of new arrivals, gently but firmly checking the general tendency to collect in impenetrable masses in the doorways, guiding all to the books they would thereafter sign daily, and then sending some to the lift and so up to the altitudes of geology and biology, others to the depths of the metallurgical laboratory, and others again to the intermediate realms of chemistry and physics. He laid hands upon me in a swift, decisive manner before I could adequately survey my future fellow students and competitors, extracted from me my status, and I had signed a volume full of the vanity of self-conscious signatures, had navigated a lift for the first time in my life, and was sitting alone in a laboratory in a remote part of the building without any appreciable interval of time.

SIGNING THE BOOK.

This is one of the most remarkable features of our South Kensington Schools. You "sign on" every morning before ten, and forthwith you are under most explicit regulation; you may not, for instance, smoke, or whistle, or sing; your career, your conversation almost, is tenderly watched by demonstrators and assistant-demonstrators, and the sense of discipline enters into your soul. You may "sign off" as early as four; at five, unless you have special leave to stay in the building, you are chased out of any humble lurking place by a policeman, and you must do it. Your responsibility to the Department of Science and Art terminates with this second signature.

THE STUDENT'S LIFE.

Between "signing off" and delivering oneself into discipline again in the morning, no human being is so absolutely free as the South Kensington student, male or female, save that it is expected that lecture notes be copied somewhere in the interval. Where and how the student lives and lodges, what fare the student eats, and what company the student keeps, the Royal College takes no heed of. At Kensington we were and are "unattached," with

a vengeance. It is perfectly open to a student from the provinces to have his or her lodgings on a seat in Hyde Park, or to spend the night in wandering about the metropolis, provided only that he or she returns with note-book, coloured pencils, and what other requirements are specified on the Departmental form, at or before ten o'clock the next morning. Considering that perhaps no great educational centre draws its pupils from such a variety of sources, or displays such contrasted types of students, as the Royal College, it might be expected that this entire disregard of extra-mural discipline would lead to "grave disorders." However, as a matter of fact—and I have known pretty intimately representatives of most of the sets among the students—Spanish, Japanese, the suburban young lady, the private students sent by their fond "guv'nors," the hopeful youth of the Yorkshire and Scotch elementary and technical schools, and *ci-devant* school assistants—there is a gravity and pervading sense of responsibility about even the golden youth of Kensington entirely lacking in the typical undergraduate. Your undergraduate is, perhaps, too evidently surrounded by the most delightful little regulations and suggestions of what he must not do, and the proctor, especially, is a constant provocation. When the dignity of the University is continually parading its purlieus, and asking whether any young gentleman will tread on the tail of its gown, there will be always some young gentleman found to oblige. But nothing stood between us at South Kensington and infinite possibilities of error. We were in our own hands, and the sense of that was a sufficient ballast for most of us.

TYPES OF STUDENTS.

The selection of students that presently dropped in to the laboratory whither the good Grummett had directed me on my arrival, will, with a little rectification, serve roughly to convey an idea of the diverse quality of our Kensington material.

Perhaps, however, I may parenthetically guard here against a natural misconception. There are student types, and, like Mr. Galton's student types, I have made them by combining the blurred negatives of several people. There are no personal portraits here.

Place aux dames, and in the foremost place, youth. Miss A. came to us straight from the celebrated ——— High School, and at first she was possessed of that noble ambition engendered in High Schools, of beating men on examination lists. She sat apart, I remember, during that awkward interval in which the new-created class surveyed itself, and she read a text-book. I recall the fact so distinctly because at that time I was still a ferocious crammer, and the spectacle of her getting ahead in this way distressed me extremely. My own text-book was at home—an unpropitious oversight. Presently I was glad to see another girl arrive and interrupt her. The two made tentative conversation, and talked of Science and Art certificates and the Locals in an easy, superior way.

The second arrival was clearly a schoolmistress of some experience. That was the time of "art" costume, of which the essence was an extreme severity of skirt, emphasised, rather than corrected, by a vanity of puffed sleeves. The hair of Miss B. was brushed back and cut short, even to the point of harshness, exposing an ample forehead to the educational influences of the place. Her glasses were evidently tried instruments of discipline. Beside her Miss A., whose pretty hair, a widening experience tells me, must have been cultivated with curling-tongs and some affection, appeared at once in her true colours as a worldling, and I felt the disadvantage of the text-book page she had scored against us less acutely. Subsequently, the fundamental worldliness of Miss A. became more evident, and she even inaugurated afternoon tea, and did her best to refine the scientific atmosphere. But only two of the men students ever learned to manage a tea-cup properly.

Miss C. was the daughter of a Positivist family, and subsequently became a philanthropic medical practitioner. During our student time she had a steady glow of enthusiasm for electoral feminine emancipation, and divided a noble gift of scorn between mankind in general and Miss A.'s character in particular. She was a little peculiar among decidedly strong-minded women in being ungracious but not ungraceful. Indeed, the only approach to a romantic incident certainly known to have occurred at Kensington, happened to her. This was an anonymous gift of immaculate and fragrant white hyacinth that was found on her table when we returned from our lecture one morning. Miss C., with an expression of ineffable disgust, took the offensive thing with the tips of her fingers and flung it forthwith out of the window. That it fell at the feet of an Italian on his way to pose

in the life schools at the back of the science school, and that he bowed profoundly with a tremendous sweep of his hat, only illustrates the vexatious mixture of comedy with tragedy in all human affairs.

Miss D., the last of the feminine section that year, was a meek-looking, soft-voiced little soul in a plain black dress. I believe she lived quite by herself in apartments. The three other girls, by-the-bye, lived at their own homes. Subsequently, in another course, one of the demonstrators, so it is said, saw her notes of his demonstrations so beautifully, so methodically, and so fully written out, that the scientific severity of his life was suddenly irradiated by a glow of novel sentiment. At any rate they married, and, so far as one can judge by appearances, they are happy.

Next to the tables occupied by these ladies, sat Mr. MacE., a portly and florid old gentleman, bald and irascible, who had come to us, as had Miss D. and Miss B., as a State-aided science teacher-in-training. He did not approve of "clittering up the laboratory with females," a disapproval only enhanced by their subsequent triumph over him in the examination. He sought occasion for quarrels with them in connexion with the opening and shutting of windows; he displayed a strong dislike to loaning them instruments or apparatus, objected practically to the reservation of the best seats in the lecture theatre for them, and maintained, in and out of season, on every possible occasion an absolutely scandalous assertion that none of them could cook a mutton chop. This last proposition was indeed Mr. MacE.'s great point against them. When he was found, an hour before lecture, squatting broadly on the seats sacred to Miss A. and Miss D., and we more youthful and chivalrous ones expostulated at the contemplated displacement, he punctuated every phrase in a lengthy argument with that mutton chop. And all his conversations with the "young females," however diversely they began, whether in the sky above or the earth beneath, ended in his insistence upon this crying wrong.

He shared his table with a small boy of fifteen, who had come from somewhere in the Hinterland of Sussex. Little F. was one of the most illiterate little wretches conceivable at that time, and knew nothing in the world but the contents of Messrs. Grind's Elementary and Advanced Text-Books, and the Science and Art Department Regulations. He had conducted his own education. He had worse than no manners—he had offensive ones, and notably a sniff. However, he got by his vulgar pushing within three marks of the head of our class, and is already a full-fledged professor at a provincial college. The laws of human development are dark and mysterious. I met F. at the Pantomimological Society a few weeks ago, and he struck me as having become emphatically the most gentlemanly-mannered man I ever met. But he did not understand an easy allusion I made to the "Merry Wives of Windsor," and he deprecated my praises of his rival, Dr. Z., so that I have my doubts of the profundity of the change.

G. was a Midland schoolmaster, and wore spectacles, mutton-chop whiskers, a flowing frock coat, and a clerical hat. In an earlier stage of his history he had assisted in the education of one of our demonstrators, and he gained a certain factitious superiority over the rest of us by calling this distinguished person "Jack" on all possible and some impossible occasions. His companion was a Spanish Creole, who was chiefly remarkable for the conspicuous struggle that went on within him between an absolutely barbaric taste for gorgeous ornament and iridescent colour on the one hand and a desire to dress as the pink of European gentility on the other; sometimes he was over-gaudy and in manner abashed, sometimes excessively "neat" and assertive—he never hit the happy mean. It was discovered at the end of the course that the insufficiency of this student's English had prevented the slightest contamination of his mind by our science. He concealed his limitations in this respect with great tact during the session.

K., who was my companion, was one of those over-slender young men who eternally lean against things and droop into attitudes. He ought properly to have been one of the bundles of long grass that now form so constant a feature in æsthetic furnishing. He was one of the two men who would hand tea for Miss A., and his father, mother, and most of his relations had written books of undoubted cleverness. He read Shelley and needed a soul to understand him. J. did not understand him, being the product of a north-country mechanics' institute. J. was a thick-set youth who swore, and swore vulgarly, by Gladstone, John Bright, and Bradlaugh, and on the slightest hint of an argument, would put one foot on a laboratory stool,

hold his arm out like a pump handle, and, addressing you with civility and frequency as "Sir," give you his views clearly, fluently, and at length, after his conception of the manner of those great men. Subsequently J. rather modified himself by reading Ruskin, and taking Art under his protection. He had a wonderful way of catching up tricks of style, and he used during his Ruskinian period to conduct small parties of admirers, among whom I must include myself, through the picture galleries of the Art Museum, talking most incontrovertible Ruskinian, and expatiating on the morality of this picture and the "purity" of the colour in that. He is now, I believe, manager to the manufacturer of an adhesive imitation-stained-glass-film, for which he has the patent; and he may end at Westminster yet.

IN THE S. K. ART MUSEUM.

This mention of the Art Museum gives an opportunity to change my drift. L., the painfully modest, self-educated shoemaker; M., the distinguished professor's clever son; N., the buoyant, stupid public-school boy, and other varieties of student may be left to the reader's imagination, now that we have touched on some extreme types. Behind the science schools is this South Kensington Art Museum, with its art library, its science library, and the Dyce and Forster Library, in which latter one may find very many rare and pleasant works. In my days the attendance of students in the laboratories was less rigorously watched than, I believe, is the case now, and when some bore of a demonstrator with his narrow little set of teaching tricks became unendurable, one quietly dropped down the back staircase and out of it all, into that ill-arranged warehouse of beautiful things. For my own part, and except for two teachers, I value my time at the Royal College of Science chiefly for the chances it gave me of slipping away into the Museum and the "Dyce and Forster."

HOW THE SYSTEM WORKS.

Saving the demonstrations of X., and the stroug clear lecturing of Y., I do not feel that I derived any great benefit from the deliberate teaching in the place. The best thing in most educations is collateral, and so to a large extent it was with me at South Kensington.

I found the geological course particularly oppressive. The professor was an extremely conscientious and methodical teacher, and a geologist of the highest position, but in his anxiety to lose none of the minor educational possibilities he seemed to lose the cardinal one of spontaneity. The instruction is altogether over-regulated, and one may illustrate the way in which it defeats itself by stating what happens in the case of the horizontal sections of strata drawn by the students. To this work several days are devoted, and by a careful regard to minute and explicit printed instructions really very beautiful sections are drawn to scale, inked with Indian-ink, and tinted in water-colour. Well, the finite student becomes so intent upon his scale, ink, and washes, that he loses sight of his exercise in section drawing, and Royal College of Science men who subsequently prepare for University examinations, have often to be taught afresh the simple art of reading geological maps.

No doubt, by making your regulations sufficiently elaborate you may force work from the idle, and you save the dull from error. Only it is open to question whether such a place as the Royal College of Science exists mainly for the idle and stupid. The instrument well adapted to these varieties of students may be merely fitted to irritate the better sort. At any rate the advanced classes, in geology at least, of the Royal College, are singularly sterile. The school is even unable to supply the adjacent Museum of Natural History, and it has certainly never produced any student to compare with at least one pupil of the Birkbeck Institution that I could mention. Though I brought a keen curiosity to geology, the omnipresent sense of petty arrangement, a specified time for every fossil and a fossil for every moment, and an observant laboratory attendant with an insistent book to note temporary absences, and so forth, speedily made the work so dismally irksome that I was driven to other pursuits. My dislike will appear less singular when it is considered that few, if any, of even the Murchison Medallists in elementary geology have got to care sufficiently for the subject to persevere into the advanced course. However, this geological course is, personally, my *bête noire*, I will confess, and I may be inclined to make a case against it. Unfortunately, the error of "coddling" in the teaching is by no means entirely confined to this subject.

THE NARROWNESS OF IT.

Perhaps the least favourable thing about the Royal College of Science is the absence of intellectual life among the students outside their regular studies. There is a feebly-attended debating society, and a students' magazine, about as vapid as it is vulgar. There is also a Students' Union now, which petitions the Department about small grievances, and keeps a register of lodgings. But when it is remembered that every Kensington student undergoes frequent periodical examinations with a *minimum* pass requirement of sixty per cent., a certain check on mental discursiveness is understood. A student has to choose more or less wittingly between high and conspicuous proficiency in science, and mental culture. But if the professed object of its studies be ignored, there can be no doubt that South Kensington affords, or at least might afford, an education of a very high kind. I am sometimes inclined to think that the authorities who rein in the students so tightly, so far as their hours of study are concerned, scarcely realize all that their college, with its adjacent museums and libraries, might become.

However, here we are concerned, not with Kensington as it might be, but with the Kensington that is. Of the latter, I hope my brief, imperfect glimpses of the hall, the lift and staircase, a laboratory full of students, methodical teaching, and errant rebels sitting over rare books in the "Dyce and Forster," or cultivating art in the picture galleries, may have served already to give the reader some slight idea. We are approaching the limits of our space, and to give the conclusion its proper flavour of the Royal College we may imagine that Grummett's handbell is clamorously awakening the echoes of the great central staircase of the building. It is four o'clock, and forthwith from the various floors erupts a miscellaneous crowd of students, to form long queues at the books, "sign off," and vanish, north, south, east, and west, into the infinity of the metropolis, whence it will be concentrated again to-morrow, breathlessly, on the stroke of ten.

If we stay in the building much longer we shall have the elderly and portly policeman asking us for our permission to remain, so we had better gather our note books, coloured pencils, and apparatus together, and fare forth into the outside world without any further delay. And in the Exhibition Road we are swallowed up in a stream of country-town femininity coming from the adoration of the Royal Wedding presents displayed in the Imperial Institute close by. Z.

MY GOVERNESSES:

MEMORIES OF THE 'SEVENTIES.

My first governess was my eldest sister, who had just returned from a "finishing" school abroad, and was accomplished enough to seem a paragon of wisdom in my eyes. I was handed over to her, and for a time the plan worked very well; one winter passed to the satisfaction of all, but with the spring there arrived complications. My sister and I were supposed to continue our relations of teacher and pupil during our daily walks; unfortunately for the conscientiousness of my mentor (aged seventeen), the same accident occurred almost daily to interrupt our studies. We would be sauntering down a lane, picking honeysuckle by way of improving our botany, when to us would enter one of the two single men the district boasted, who would greet us with evident surprise and join our ramble in the most casual manner in the world. He would then evince an intense desire to see now quickly I could run—"say to that stile in the distance there, and back again to us, eh?" and my sister would murmur, "But not too fast, dear, or you'll give yourself a headache."

In this way, the athletic portion of my education progressed somewhat at the expense of the rest, but it was not for me to complain. June put an end to the arrangement, for in June my sister took her departure to London for a month, to enjoy what we vaguely called "the Season," and I imagined to be a delirious whirl of revelry. I have since had reason to know that she spent a month with Aunt Jane in furnished apartments, and passed unscathed through many "afternoon teas."

A lately widowed sister lived with my father, and for a time I was handed over to the "mother's help" who had charge of her little children. I struck this lady in the light of a calamity, and she very soon left her place, defining me as a handful. For a time I was allowed to run wild and help my father in the garden. He had turned his sword into a ploughshare, or rather a pruning-knife, and, after fifteen years in India, had settled down in a lovely part

of Devonshire, where we had a tumbledown old house with a glorious garden, in which he spent most of his day pruning rose-trees and weeding strawberry beds.

"Where is Gibraltar?" he asked me suddenly one day, during one of these weedings.

"Oh, have you got your gun?" I answered evasively, "I'm sure there's a blackbird at the cherries again!"

"Where is Gibraltar?" he persisted sternly.

"Oh, Gibraltar? of course, I know all about *that*! It's only a rock really, and it's on the way to India, and it's generally spoken of as Gib, and there's always a regiment there," I answered glibly, hoping to allay my parent's thirst for information.

"What country is it in?"

"Well, you can hardly say it is in any country," I explained, watching my father's face. "It's something to do with Malta. You might almost say it was in England," I concluded, with a happy inspiration, "for it certainly belongs to the English."

"Thank you very much," said my father, admiringly, "and now may I trouble you to go indoors and write out a hundred times 'Gibraltar is in Spain'?"

"Oh! didn't I mention that it was in Spain?" said I, striking one more blow for freedom, but my parent beginning to move in my direction, I fled into the house. Even with the four pencils tied together which I kept apart for tasks of a like nature, it took me some time to write out the lines. When I handed them to my father he made a remark which at once diverted my thoughts from the general odiousness of Gibraltar.

"We'll see what your new governess will say to handwriting like *this*," he observed.

My new governess! Before I had realized the possibility of such a thing, the accomplished fact was before me. She arrived that very day from London. My father and aunt inspected her anxiously when she presented herself, for they had engaged her by letter, personal interviews being hard to arrange at our distance from civilization.

The lady's appearance was not impressive at the first glance. She was very large and limp, and her hair, complexion, eyebrows, and eyelashes were all of one unvarying tint of drab. She answered the questions put to her by my aunt in an over-awed whisper, and stood about looking like a frightened sheep. When she had been shown to her own room, my father made a remark to his sister in the French tongue. I retired to my dictionary and made myself mistress of the situation. The remark was something to this effect: "At any rate, she doesn't look as if she could do the child any harm."

When I was alone with my instructress the next morning, her manner was by no means so diffident as before.

"What lessons do you like best?" she asked. "Which does your father make most fuss about? I hope they don't expect me to teach you without the books. I never could do that."

"Oh, no," said I, picturing an easy, unexact series of lessons "learnt by rote," which learning was never any trouble to me; "you might give me some 'Child's Guide' to learn for to-day."

She caught at the idea, and I began meekly at the beginning of the book. It was not for me to volunteer that I had been familiar with the process of preparing wheat, and known "what was then done with it," from my cradle upwards. Butter's "Spelling" followed, and Ahn's "First French Course." (I had given the Second and Third Courses, with their tell-tale pencil marks, hasty burial in the garden at dusk.) Our lessons went on smoothly, as may be imagined. I could not help seeing that my governess knew absolutely nothing, but as my own love of knowledge was easily kept within bounds, I did not expose her to the authorities. I think I admired her for growing up with such an unprejudiced mind, and I certainly resolved to give my own services to the world as a teacher of youth when the world should be ready for them.

After this governess had been with us for a couple of weeks she suddenly developed in an unexpected manner.

"Do you like fair men or dark men best?" she asked me.

"Dark," I answered promptly, though I had never given the subject a thought in my life.

"So do I," she said, and then giggled—looked at me, and giggled again.

"What is there to laugh at?" I inquired disrespectfully.

Oh, I wasn't to ask her—at least, I could ask if I liked, but she would never dream of trusting a child like me. He was engaged to her, and he had given her *this*—the corals were real stones—and he wrote to her every week, such lovely letters!

She would no sooner show one to me than—yes, *wasn't* it a sweet handwriting? and look at the signature; so *manly*-looking, wasn't it now? and such a romantic name—Gny. He was a consulting physician—at least, he was going to be. There were a few exams., she believed, to be gone through first as a matter of form, and then . . . "What is indigo?"

"It is the noise made by the closing of the air after it has been parted by the lightning-flash," I answered promptly. Papa likes Brewer's "Guide" much better than "Child's," so I answered out of that. "He is not under our window now. Go on."

And she did go on. I was soon fully qualified to pass an exhaustive examination on the state of Mr. "Guy" and his feelings and internal economy generally. I knew just what moonlight would make him feel like, and how much sunset it would take before he could be induced to quote poetry; also I was conversant with the exact number of strikingly improbable events that would have to occur before he could conveniently forget my governess.

I was a poet about that time, and my instructress was a great admirer of the more impassioned efforts of my muse. The anniversary arrived of the day on which "Guy" had been granted to till then imperfect world, and I was prevailed upon to "drop into poetry" for the occasion, and to let the credit thereof accrue to my governess. It led to her undoing.

After miraculously short time for reflection, I threw off the following:—

"Ah, Guy! Ah, Guy!

To think that I,

Who nothing am, am all to thee!

May it be so

With ne'er a woe,

On every anniversary!"

My governess was charmed (and so was I) with this delicate conceit, and copied it in her best handwriting on the back of a birthday card representing a basket of forget-me-nots. Unfortunately, the rough draft of the poem was in my own copybook, and there my aunt discovered it that very night. She asked my governess in amused astonishment what it could possibly mean, whereupon the damsel melted into floods of tears and, to my pitying disgust, told the truth. I mournfully assisted at the packing.

Our next experiment was a lady of very different calibre. She had seen better days than any of us could ever hope to see, and she took us all by storm. I shall never forget her arrival on our peaceful lawn, in a velvet dress and Gainsborough hat, with an eighteen inch waist, very pink cheeks and very yellow hair. My aunt said "Dear, dear!" but very soon forgot that the yellowness and the pinkness were a little distressing, in the new-comer's gracious acceptance of us and our surroundings. She assured us that she would be happy with us—one so soon got used to small rooms instead of large ones; we had quite a nice bit of garden, and, after all, as her mother often said to her, what was the good of grumbling because you were in a smaller house than you'd been used to?

Before this radiant being had been a week in the house, she had persuaded my sister to buy a blue plush dress and have it made on the model of one of hers; she shocked her considerably by disclosing the secret of her wild-rose complexion, which had been imparted to her mother by the Empress of Russia (the Imperial lady has apparently honoured the ordinary hairdresser with a like token of confidence); she gave my aunt many useful hints as to the rearing of her young family; and she taught me in a kind of reckless, dashing sort of way that defied criticism. She was ignorant, vulgar, and appallingly "loud," but nobody dared to send her away. We all went about in fear that she would dismiss us one day when her "better-days" memories were strong upon her. But she never did. She showed every sign of marrying my father instead; in desperation he hit upon the expedient of dismissing the pupil, as he did not dare to dismiss the governess, and he sent me to school; on which she reluctantly went. Even then the school was of her choosing.

Very different would have been my governess in these enlightened days. I can see her before me—a sweet girl graduate of Girton or Newnham, reluctantly persuaded to forsake the High Schools and mould humanity singly, instead of in the lump; a girl with eyeglasses, and "no fringe," a mission, and a magnificent muscle, as they know who have watched Newnham on her tennis-lawns and Girton in the hockey field. She would have expanded my young mind until the higher mathematics rose from the ashes of Colenso's "Arithmetic," and instead of Ahn's "First French Course" we should have gone earnestly through

the writings of the modern French masters. I might possibly have learnt from her to compare Ibsen with Tolstoi as a World-thinker, and to discuss every social question in mixed society with grave and unflinching brow. She would have regarded the "officers' daughters" and clergymen's sisters," who are ready (as such) to train the youthful mind, as beings of another sphere; at the same time, she would have modestly recognised herself as a mere unnoticeable product of this age of thought, an outcome of the tendency towards a more developed state of the feminine element generally. She would have been very good, earnestly conceited, a little to be laughed at, and much to be admired. On the whole, I am sorry that she was not born then, and could never, by any possibility, have been governess of mine. A.

THE TEACHER'S LAWYER.

THE schoolmaster's ignorance of the law is pretty frequently illustrated to his cost in the law courts; a good handbook, which would give him reliable information on knotty points connected with "notice," discipline, dismissal, responsibility for negligence, and other matters which occasionally trouble him, would probably be profitable in more senses than one. "The Teacher's Legal Guide," by Messrs. E. Cutler, Q.C., and H. Lynn (George Gill & Sons) is good as far as it goes, but it is not likely to be of very much use to any but elementary teachers and those who control them. The most important chapter is perhaps that on "Punishment," which contains, among other things, an account of some interesting cases.

DISCIPLINE OR MANSLAUGHTER?

Lord Chief Justice Cockburn presided in the trial of Regina v. Hopley, the prosecution of a schoolmaster for barbarous violence such as has rarely disgraced the annals of the scholastic profession.

"The facts were briefly these: The prisoner, who was indicted for manslaughter, was a schoolmaster at Eastbourne, and the deceased, a boy about thirteen, was a pupil under his charge. At Christmas, 1859, complaints were made about him for punishing the boy, who was temporarily removed, but he afterwards returned to school. In April, 1860, the prisoner wrote to the boy's father complaining of his conduct, and saying that 'were he his own son he should, after warning him (as he had done), subdue his obstinacy by chastising him severely; and that, if necessary, he should do it again and again, and continue it at intervals, even if he held out for hours,' adding, 'I cannot be blind to the fact that at Christmas I ran a serious risk of having my character damaged for life, and I do not think it right to run that risk again. I therefore write this to know your wishes.' This letter apparently referred to the risk which the teacher ran if he chastised the boy without complete delegation of the father's authority, and not to the discredit which the boy's ignorance might reflect. In reply, the father wrote: 'I do not wish to interfere with your plan.' It will be seen, therefore, that in this case the master had, in the fullest degree, the parental authority delegated to him; the following night the prisoner took the boy into a room and beat him for about two hours with a thick stick and a skipping rope, and shortly the boy died."

The judge concluded a clear summing-up with these words:—

"It is true that the father authorised the chastisement, but he did not, and no law could, authorise an excessive chastisement. There can be no doubt that the prisoner thought the boy obstinate, but that did not excuse extreme severity and excessive punishment. The prisoner's motives upon this charge matter not. If his excessive violence caused the death, find him guilty."

Hopley was, of course, found guilty; he was sentenced to four years' penal servitude—a punishment which, all things considered, did not err on the side of severity.

THE GREAT ANTI-BUNKER CONSPIRACY.

Ludicrous circumstances surround a school-boy's action for "assault and false imprisonment," in the case of Fitzgerald v. Northcote, the defendant being principal of the Roman Catholic Seminary at Oscott.

"It appears from the report that there was a strong feeling of jealousy between a poorer class of students known as 'divines,' and sent by Roman Catholic prelates, and educated without expense to the student's family, on the one hand, and the class to which the plaintiff belonged, whose education and maintenance were paid for on a liberal scale by their friends. The comic element in the facts of this case comes out in striking contrast to the tragic character of those in 'Regina v. Hopley.' The co-prefect, who was made a defendant, had recently belonged to the class of divines, and he had paid a domiciliary visit to the plaintiff's rooms when its owner was away, and discovered a pocket-book containing a list of names of clerical students, distinguished by marks (*sic*). In the report the 'marks' refer, probably, to the names, and not to the persons of the

divines in question. The character of the pocket-book may be ascertained by copious extracts set out in Messrs. Foster and Finlayson's ponderous tome, from which the writers are quoting. Persons familiar with Mr. Gilbert's opera *libretti* might be reminded of the secret societies indiscreetly brought to the light of day by the ingenious playwright, when they read such mysterious entries as: 'Governor Sedley elected March 6th for his magnanimous sentiment about Sedgeley Park.' Sedgeley Park was another seminary for the divines. 'N.B.—Consult Mr. Secretary Fenn about this gentleman.' 'List of members of A.B. Society.' No names follow. Again: 'We want all particulars about any of the undermentioned as to birth, parentage, qualifications, and patrons.' What wonder if the clerical room-searcher, his imagination deeply impressed with the alarming character of these entries, and still more overwrought by the discovery that the expression 'A.B. Society' imported 'Anti-Bunker' (otherwise 'anti-clerical student') Society, rushed with this information to the president, having first possessed himself by force of the indicium of conspiracy, viz., the pocket-book, recking, as it was, of treason. On being summoned before the president, the plaintiff tried to make out that no over-humiliation, far less personal injury, to bunkers was contemplated—that the matter was mere nonsense and amusement. So said the boys to La Fontaine's frogs. So have other conspirators attempted to laugh away the most malignant plot. No such explanation could be admitted in the great anti-bunker conspiracy, and well-wishers to the powers that be will rejoice to hear that the ringleader was locked up in his room till a conveyance was found to remove him on his expulsion, which at once followed. Alas! by recording the verdict we are destined to give a rude shock to these views."

* * *

"The ultimate result of the case was as follows: The fact of assault and imprisonment was made out, and it was necessary, therefore, to decide whether there was justification for those steps. The jury thereupon relieved the Oscott authorities from the dark shadow of anarchy which hovered over them by finding that the Anti-Bunker Society had no existence in fact, and that the assault and imprisonment having been inflicted on the person of one who was innocent of the malignant purpose imputed to him were not justified by the facts."

Master Fitzgerald's wounded feelings were solaced with damages of £5.

OUT-OF-SCHOOL FAULTS.

The right of a schoolmaster to punish a boy for misbehaviour not actually committed on school premises is generally taken for granted (where desirable) in schools above the elementary class, but the parent who educates his offspring by the help of the public purse is often uncommonly sensitive concerning said offspring's person, as Board-school teachers have reason to know. Messrs. Cutler and Lynn's clear statements in these matters are likely to be useful.

"Having considered the nature and extent of the teacher's power, there remains the question of the duration of his authority. While the pupil is actually in school there can be no doubt, but does such authority cease the moment the child quits the school premises and gets beyond the sacred gate? This case has incidentally arisen in the case of Lake v. Tate, in which the master of a London Board school was charged with having assaulted a pupil under his charge. The boy's offence was one committed outside the school gates, but within the view of the master. The magistrate holding, *inter alia*, that the master's authority had ceased, fined him heavily. Fortunately for the master, this happened in London, where an appeal lies. Had the case occurred outside of the Metropolis, the decision would have been final. The appeal was heard at the Middlesex Sessions, and the conviction was quashed."

That the Sessions view was right is proved by a similar case recently tried before Mr. Justice Lawrence and Mr. Justice Collins.

DISMISSAL.

The law on this subject, so far as it applies to the dismissal of a teacher by a Board, is thus formulated:—

"(1) Where the teacher is accused of active misconduct, of passive negligence, or inefficiency, he cannot be validly dismissed until he has had an opportunity of defending himself before a committee meeting properly summoned. The point has not been decided by authority, and it is doubtful, owing to unreported observations on the part of learned judges with which the writers are familiar, whether rule (1) would apply in cases of specific agreement to be dismissable on an agreed notice.

"(2) Where he is dismissed for a reason collateral to himself and only affecting the well-being and conduct of the school, the requirement in (1) as to the meeting purporting to dismiss him applies, but he is not entitled to argue his case before it.

"(3) In the case where he is dismissed for a collateral reason, and there is some merely technical vice in the formation of the committee purporting to dismiss him, he may be entitled to reinstatement, but no costs of action will be given.

"(4) In any of the cases his claim will be weakened by unnecessary and substantial delay in bringing it forward; a delay of more than a month would probably be considered substantial.

"(5) In case (3) substantial delay might very likely be fatal to his application, especially if in the interim a new master has entered upon his duties.

"(6) Any words in the deed regulating the school or in any Act of Parliament importing that the managers have an arbitrary power of dismissal will be moulded so to make them subservient to the above rules."

The value of the book is enhanced by an appendix containing the Education Acts; it is not too much to say that it ought to be in the hands of all members of School Boards, managers of elementary schools, and elementary teachers.

REWARDS AND PUNISHMENTS IN FRENCH SCHOOLS.

By the Rev. WILLIAM BURNET, M.A., British Chaplain at Lille.

"THERE is no education," said Rollin, "without respect, no respect without authority, no authority without rules." This is the wise and just conclusion in which all sensible educationists, whatever may be their theories on the subject, eventually agree. In France there has been of late years much vague philosophic generalization about school discipline. The ideas of Rousseau, Herbert Spencer, and others have many admirers, and yet all practical men are obliged to resort to rewards and punishments, if they would ensure order and obedience. They find, as we do, the necessity for both the bridle and the spur in dealing with the unruly and the indolent. A school is a miniature world, and no society can long exist without recognised authority. The teacher is the representative of that authority, and is bound to maintain it by the means best suited to the characters and circumstances of his scholars. There is, indeed, much truth in the remark of Legouvé: "Maîtres et élèves ont un maître commun, l'affection." But the gentle sway of the all-powerful principles of love cannot be sustained apart from restraints and encouragements. We propose, then, to inquire in what ways these are applied in French schools, especially the elementary.

As far back as the First Empire, corporal punishment was forbidden in the *lycées* and colleges, though retained in the elementary schools. Still, even in the former, it appears that very severe discipline was exercised. A statute of 1809 authorized the following kinds of punishments:—(1) that the offender should be placed in an enclosure at one end of the playground, and not allowed to speak or play; (2) the table of penitence; (3) punishment tasks; (4) deprivation of uniform and investiture in a rough coarse dress; (5) imprisonment. Surely these penalties, with the exception of the tasks, must have been much more degrading and humiliating than a sound flogging, painful but quickly over. But most of these penalties have, of course, been long since abolished as unworthy of a more enlightened age. Even in 1834, under the ministry of Guizot, it was enacted that in the elementary schools scholars should never be beaten. The only form of corporal punishment then sanctioned was that offenders might be made to kneel during part of a lesson or in play time. In 1882, when education became compulsory and secular, every kind of physical penalty was prohibited in all the schools of France. In this respect the example of France has been followed in Belgium, Austria, Hungary, Spain, Greece, and Italy; whilst England, the United States, and Germany retain, to some extent, the use of the rod, cane, &c., in their schools. The continuance of such modes of discipline in our great public schools is often commented upon with surprise, and even ridicule, by French writers, though they are fain to admit that the results of our system are often better than those of their own. Not long since, I was told by the headmaster of a large Jesuit College in France that, during a visit to one of our public schools, he obtained a twig of the famous instrument of torture in use there, and on his return he exhibited it to his pupils to show them how, if they misconducted themselves, they would be dealt with on the other side of the Channel.

But, even if the worthy Orbilius had wished to adopt our English practice, the law would most stringently interdict him from doing so. As regards primary schools it prescribes the use of bad marks, reprimands, partial deprivation of play, keeping in after school, temporary exclusion for not more than three days—notice of which last measure must at once be sent by the teacher to the parents, the local authorities, and the Primary Inspector, whilst a more extended or final expulsion can be pronounced only by the Inspector of the Academy. These last steps are, of course, never resorted to except in extreme cases. Such are the sole repressive measures allowed by the law. It therefore reflects no small credit on the moral influence, tact, patience, and firmness of many of the masters and mistresses that good order and discipline are maintained without any appeal to physical force. At the same time, there are peculiarities in the French character and the habits of the people, which, in a measure, account for this. It would certainly be rash to draw any conclusions from the working of the French system as to the advisability of abolishing corporal punishment in our own schools. However it may be accounted for, the French operative classes are in general more amenable to authority than our own. They may be more easily excited, and under evil influence roused to deeds of violence and bloodshed, than an English mob; but at other times, under wise and kind treatment, they are not difficult to control. Anyone who has observed the behaviour of a crowd in Paris or other large towns, at the doors of a theatre or other place of amusement, can scarcely fail to have been struck by the exem-

plary patience with which they submit to be marshalled in "queue" by the police, and wait in turn for admission. Seldom do we see there that crushing and jostling which makes an English crowd so eminently unpleasant and unmanageable. So it is to a great extent in the schools. However disorderly and saucy may be the "gamins" in the streets when left to their own devices, once they enter a school they are awed by authority and subside into submission.

Besides this, the use of the "livret scolaire" serves to enlist the co-operation of the parents in securing the good behaviour of the children. This is a little book supplied to each scholar, in which a weekly report is entered of his conduct, diligence, place in class, and marks gained in examination, with any necessary observations. It is signed by the head teacher and parents, and is preserved as a record of the child's school-life. By this means the family is kept informed of his behaviour and progress, and they can administer praise or blame or correction, as they think proper. This is certainly an admirable plan, though its utility must chiefly depend on the interest taken by the parents in the matter. It remains for us to notice briefly what is done in these schools in the way of encouragement. Although the French Code speaks very distinctly about punishments, it is altogether silent on the subject of rewards. Still they are largely used in various forms, such as marks, picture cards, prize books, "tableaux d'honneur," containing the names of the best-conducted and most successful pupils of each week, and exhibited in some conspicuous place, and gifts of money. The marks, when equitably and carefully given, are a constant stimulus, and supply a definite estimate of each scholar's conduct and work, especially if followed, as they often are, in the case of the younger children, by picture cards, which can be shown at home. In some infants' schools, too, the best behaved and most intelligent scholars are chosen as monitors, and wear a coloured badge, that is removable for misconduct. But, perhaps, the most effectual reward is the "livret de caisse d'épargne," or savings bank book, in which small sums are placed to the credit of the scholar, not to be drawn out until he comes of age. Sometimes, also, a special prize is given to the boy or girl who has lodged the largest sum in the bank during the year. In this way habits of thrift, as well as of diligence, are encouraged. Such, in general, is the system pursued in these matters in the French schools. The details of course vary according to the judgment of the teachers and the requirements of each school. We do not propose now to discuss the merits of these arrangements, but simply describe them as possibly suggestive of improvements amongst ourselves.

REVIEWS.

Outlines of English Literature. By William Renton. (Murray.)

In something under 250 pages the author of this "Extension Manual" attempts to survey the whole of our literature, from Beowulf to the late John Addington Symonds, and to include a review of American authorship. Under these circumstances it is not necessary to consider in detail the extent to which he has failed, but it may be as well for us to express our opinion that in no single respect has his book any advantage over Mr. Stopford Brooke's little primer, while in sympathetic criticism, appreciation, vigour, and arrangement it is far inferior to it.

The chief novelties in the book are a more liberal use of labels than is common even in these days of cram, and the introduction of a number of remarkably original diagrams, which we hope no rival text-book maker will be so immoral as to imitate. There are eight ages of literature, it appears, of which we are to regard one as "The Serious Age," another as "The Age of Gaiety" (which was over, naturally, before the literary cram-books were invented), and another as "The Sententious Age." We ourselves are abiding in "The Sympathetic Age," Mr. Renton informs us, and readers who are anxious to grasp its true essentials may begin by getting up a neat little table such as this:—

POETRY OF NATURE AND THE FEELINGS.

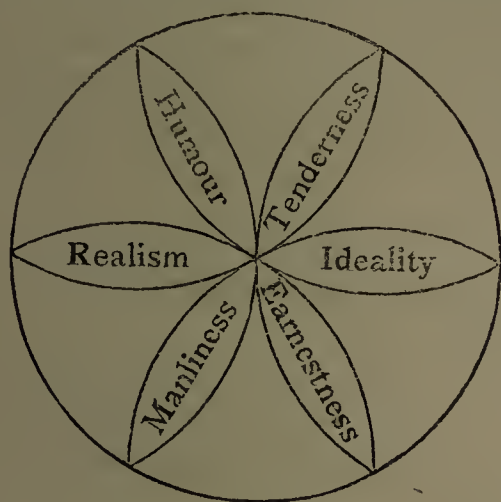
Earlier.	Later.
<i>Nature and Will</i> —Byron.	<i>Nature, Spirit, and Will</i> —Noel.
<i>Nature and Soul</i> —Shelley.	<i>Nature, Will, and Soul</i> —Browning.
<i>Nature and Sense</i> —Keats.	<i>Nature, Soul, and Sense</i> —Swinburne.
<i>Nature and Spirit</i> —Wordsworth.	<i>Nature, Sense, and Spirit</i> —Tennyson.

We presume this is meant to convey (among other things) that the fundamental difference between Swinburne and Tennyson lies in the fact that the poetry of one is soulful, whereas the other is spiritual—of which the reader must make what he can. Perhaps he will be more fortunate than ourselves in grappling with another table, which is adorned with arrow-heads pointing in different directions, and illuminated by the following note:—

"Conspectus of English Poetry, showing (a) *vertically*, its course through the last seven Ages (1350–1900) successively, in its three Stages (denoted by three columns), first, of Ascent from Barbour to Shakspeare,

second, of Decline, from Shakspeare to Southey, third, of Re-ascent, from Southey to Tennyson—from which it will be seen that the curve is a cycloid, tending at the present moment to the Dramatic; (b) *horizontally*, the affinities of a number of authors occupying the same isopathic lines, independently of intrinsic power, Age, School, or Nationality; and the Table may be extended in both directions."

We have no doubt it may; for our part we are possessed by no consuming passion to try our hand at cycloidal tendencies to the Dramatic as a branch of prophecy, and we mistrust our ability to trace literary isopathic lines. But what do the half-educated young persons who attend Mr. Renton's Extension Lectures, or who use the book as a manual to assist them in keeping up with the lecturer, make of it all, we wonder. They will be surely lucky if they carry away no positively false notions about literary art, and only regard the study of it as a sort of parlour game played with counters such as this:—



This is intended to assist us in our understanding of Chaucer, we believe.

We have confined ourselves in this notice of the book mainly to an exposition of the idea of the study of literature which seems to underlie it. Of its merits or defects from any other point there is not much that need be said. The criticism, where it is not pseudo-scientific, seems to us generally rather poor; it is, of course, open to anyone to hold that Swift and Defoe have "a similar want of refinement and ingenuity," and to regard "Mr. Geddes on the Cyclical Process of Cell-transformation" as worthy of mention in a book on the history of our literature from which Hawes is omitted. It is ridiculous, however, to call Jonson a "Scottish" author; and only insufficient acquaintance with the subject can explain the unquestioning attribution to Chaucer of "The Court of Love," the unhesitating acceptance of the whole Caedmon tradition, the reference to "the author of Beowulf" as "secular poet first and religious after," and the statement that "Sir John Mandeville . . . is chiefly interesting as having been the first Englishman to give a connected account of travel at all."

Advanced Physiography. By R. A. Gregory and J. C. Christie. (Hughes.)

The almost proverbial difficulty of joint authorship has in the case of this book been avoided rather than solved by the simple expedient of the collaborators writing altogether separate portions. Mr. Gregory has written a very full and readable work upon advanced descriptive astronomy and physical geography in its astronomical aspects, and Mr. Christie has written three chapters on the Earth as a cooling globe, the interior of the Earth, and Kant's hypothesis. In this latter portion Mr. Christie overlaps Mr. Gregory, and is not altogether in entire agreement with him. The method of our two authors is also very different, though both in their several ways have much that deserves commendation. Mr. Gregory writes always with the object of his book clearly in view. His explanations are remarkably clear and exact, and have that digestible quality that marks the natural teacher. Mr. Christie is more concerned with the exhaustive discussion of the questions he deals with, and he is conspicuously judicial and argumentative. In the matter of the condition of the interior of the Earth, he follows the school of the Rev. O. Fisher, but his caution in ascribing no opinions without actual quotation might almost lead the unwary reader to the conclusion that Mr. Christie was propounding original views opposed to those of Lord Kelvin. Some of Mr. Christie's arguments, too, have long been disposed of; the extreme crump-

ling of strata is no proof of the thinness of the Earth's crust, since there are cases well-known of crumpled strata overlying an undisturbed base.

Mr. Gregory's portion of the work is particularly well illustrated, and we can especially commend it to the reader for a full and yet not crowded summary of such phenomena as tidal action, the meteoric theory of Lockyer, and the like. It will be very useful outside the range of Science and Art Department examination students, more especially to school teachers of physical geography who desire to revive or amplify their knowledge of the astronomical portions of their science, but for the purposes of the candidate for this examination, for which it is written, it has competitors, undoubtedly, but no formidable rival, and for this purpose it will certainly find its chief employment. We welcome this book as a hopeful sign of the rising character of the Science and Art Department "cram" book. A few years ago these were the wretched compilations of mere grant-earning experts, and their literary deficiencies were only equalled by their scientific sins. But now we find that those books which have cast so unfavourable a reflection upon the name of South Kensington are being rapidly superseded by a new type, of which the present volume is among the best examples, a book written not only ably but honestly, and, in the accuracy and modernness of its information, in advance even of works of considerably greater pretension.

SHORT NOTICES.

CLASSICS.

Euripides: The Hecuba, The Medea, The Bacchae. Translated by E. P. Coleridge, B.A. (George Bell & Sons)

The volumes of this new issue of the familiar Bohn are published at a shilling each. A short memoir of Euripides is reproduced in each book, and Paley's Introductions, reprinted from the "Cambridge Texts with Notes," are inserted.

The Gallic War of C. Julius Caesar, Book I. With Introduction, Notes, and Appendices by John Brown, B.A. (Blackie.)

A revised edition: the notes have been extended, and several short introductions have been prefixed.

Cicero: Ad Atticum, IV. Edited, with Introduction and Notes, by J. H. Haydon, M.A. (W. B. Clive.)

An introduction, giving a Life of Cicero, a sketch of the period, a note on the letters of Cicero, and a short Life of Atticus, a clearly printed text, concise notes free from parallel passages and controversial discussions of difficulties, but replete with explanations of grammatical and historical points, and a succinct historical index, make up an edition that will be welcomed by the diligent student.

MATHEMATICS, &c.

Euclid, Books I.-VI. By D. Brent, M.A. (Rivington.)

The propositions are well set out, each of the stages being clearly distinguished in the arrangement of the page. Symbols are used throughout, and other proofs are substituted in some cases for those of Euclid, the Euclidian sequence being, however, carefully preserved. The appendices on harmonic section, transversals, inversion, &c., should be useful in the upper forms. The book contains a very large number of riders.

A Treatise on Dynamics. By W. H. Besant, D.Sc. (Bell.)

The new edition of this standard work has been thoroughly revised and considerably expanded. Among the additional chapters which will much enhance its utility is that on the motion of a system in three dimensions.

Enunciations in Arithmetic, Algebra, Euclid, and Trigonometry, with a few Examples and Notes. By P. A. Thomas, B.A. (Macmillan.)

This is intended to be used as an adjunct to the many excellent text-books now published. Its objects are to help in apportioning the work to be read in the mathematical sets in a school, to assist in teaching new work or in revising old, to help beginners and in revising for an examination, and lastly, for setting bookwork papers.

Army and Civil Service Examination Papers in Arithmetic, Elementary and Advanced. By the Rev. A. Dawson Clarke, M.A. (Longmans.)

A third edition, with the notes re-written and the addition of papers recently set.

Common-Sense Euclid. Part II. Books III. and IV. By the Rev. A. D. Capel, M.A. (W. H. Allen & Co.)

The plan in the two earlier books has been adopted in this the second part. In the third book, several converse propositions have been proved. All figures are clearly printed, although a larger type in the lettering would have been advantageous.

Graphic Arithmetic and Statics. By J. J. Prince. (Thomas Murby.)

In this small book of forty-eight pages, the requirements of the Department of Science and Art are met. The latest syllabus issued by the Department includes a few questions on graphic arithmetic or statics. Mr. Prince has included all that is necessary for both the elementary and the advanced stage.

The Comprehensive Arithmetic. (Blackie.)

This Arithmetic, which is in seven parts, corresponding to the several standards, has been rejuvenated. All the parts except the seventh now conform exactly to the official demands. The seventh seeks a wider constituency than Standard VII., and may be used for secondary schools, and by pupil teachers.

(1) *A Treatise on Plane and Spherical Trigonometry, and its Applications to Astronomy and Geodesy, with numerous Examples.* (2) *Elements of Plane and Spherical Trigonometry, with numerous Examples.* By Edward A. Bowser, LL.D. (Isbister.)

A singularly complete treatise, but beyond the fact that it contains both plane and spherical trigonometry in one book, we cannot see that it has any claim to supplant the excellent text-books at present in use in English schools. Considerable care has been taken in the treatment of the theory and use of logarithms, and in the higher work. The examples are carefully graded, and illustrate every part of the subject, and test the student's ability to deal with them in the many forms they may assume in practical applications. The latter work is, in fact, the larger book with much left out that would be beyond the powers of the beginner.

Mathématiques et Mathématiciens: Pensées et Curiosités. Recueillies par A. Rebière. (Librairie Nony & Cie.)

This interesting work has been enlarged and revised; analogous subjects have been better grouped, notes have been added, and the historical part has been extended. The first part, still the most important, contains *moreaux choisis* from the principles, methods, classification, philosophy, and history of mathematics. The second part deals with anecdotes and the familiar detail of biography; the third with paradoxes, which incite the curiosity. The work closes with problems—some celebrated and classical, others frivolous and humorous—a bibliography, and an index.

A Treatise on the Analytical Geometry of the Point, Line, Circle, and Conic Sections, containing an Account of its most recent Extensions, with Numerous Examples. By John Casey, LL.D., F.R.S. (Longmans.)

This, the second, revised and enlarged edition covers five hundred and fifty pages. Four hundred of these Dr. Casey had seen through the press at the time of his death in 1891. The responsibility of bringing out the remainder was left to his son-in-law, Mr. P. A. E. Dowling, B.A., who was fortunate in having the advice and aid of Professor Neuberg, of the University of Liège. Professor Neuberg's share in the work is, in fact, conspicuous throughout, for his numerous important theorems, notes, and suggestions were almost all adopted by Dr. Casey in the earlier part of the book.

ENGLISH.

Scott's Lord of the Isles. Edited by T. Bayne. (Clarendon Press.)

The editor has managed to provide a quite sufficient amount of useful and accurate annotation without tempting the reader to lose the text in the comment. We have always thought Scott's poems in general, and this one in particular, among the most suitable of classics for the schoolroom, and far better adapted for such service than much of the greater literature which is so employed.

History of India. By J. C. Marshman. (Blackwood.)

To this edition—the third—of the late Mr. Marshman's well-known abridgment, there have been added a serviceable map and a not very unsatisfactory epitome of events, bringing the history down to the year 1891. The ignorance among educated people concerning all matters that relate to India is so dense, while these are so important and so interesting, that it is much to be wished that schoolmasters could see their way to introducing the majority of their pupils to Marshman.

The Royal Wall Maps.—(1) *The British Islands.* (2) *Europe.* (T. Nelson & Sons.)

The first is undoubtedly the best map we have seen for giving a correct idea of the relative size and position of these islands, compared with the countries on the other side of the North Sea. South Norway and Sweden, Denmark, Western Germany, Northern Switzerland, and Northern France, are included in this map. The whole is divided into squares by lines 100 miles apart. The system of colouring adopted leaves nothing to be desired. Sepia is used in different shades for mountainous country, green in different shades for lowland, and blue for the sea. The rivers are distinctly shown, and only a few towns are added. *Europe* has the same characteristics, but is divided into squares by lines scaled 500 miles apart. Two sections are added to each map.

Practical Guide to English Composition and Essay Writing. By W. Stewart Thomson, M.A. (Simpkin, Marshall, & Co.)

A third edition, greatly enlarged and carefully revised. There is

scarcely a page that has not been in some way amended. We commend the book to candidates for appointments in the Civil Service.

Outlines of Geography, for the Use of Lower and Middle Forms of Schools, and of Candidates for the Army Preliminary Examinations. By A. A. Somerville, M.A., and R. W. White Thomson, M.A. (Percival & Co.)

Both in maps and letterpress no pains have been spared to emphasise points of importance in order to catch the learner's eye, thus enabling him to remember and reproduce more readily. The maps, especially those of river basins, are excellent and helpful; but we do not feel sure that the other information given is sufficiently definite.

MODERN LANGUAGES.

Orthographisches Wörterbuch der deutschen Sprache. Von Konrad Duden, Ph.D. (Leipzig: Bibliographisches Institut.)

Dr. Konrad Duden's "Orthographical Dictionary of the German Language" is so well known as a standard guide to the modern spelling adopted in Germany that it will suffice to mention, as a recommendation of the present fourth edition, that the book has been thoroughly revised—*umgearbeitet*, as the Germans call it—and that it has, besides, been considerably enlarged. Let us add that the dictionary, which we consider almost indispensable to students of German, is very clearly printed, prettily got up, and strongly bound, and that it can be bought for the very moderate sum of eighteenpence.

Murat. Par Alexandre Dumas. Edited by W. J. Locke, B.A. (Percival & Co.)

This is one of the useful Intermediate Course of French Texts. The notes are mainly grammatical.

(1) *Dutch Conversation-Grammar.* By T. G. G. Valette. (2) *Handbook of English and German Idioms; with an Appendix, English and German Prepositions.* By Franz Lange, Ph.D. (David Nutt.)

Both of the above-mentioned books are good examples of the Gaspey-Otto-Sauer method. A good conversation-grammar of the Dutch language has long been wanted.

MISCELLANEOUS.

Grayson's Slate-Cloth Drawing Sheets. (W. & A. K. Johnston.)

These sheets will be specially useful in kindergarten drawing, scale-drawing; and the latest (No. 4) is designed to assist the teaching of geometrical figures, especially triangles and polygons. Small diagrams at the side are printed for the use of the teacher.

Messrs. W. & A. K. Johnston send us also the latest addition to their Natural History set, *The Kingfisher*, and also an illustration showing, in four small pictures and a large one, the various processes of paper-making. We can only say that they both come up to the excellent standard reached by former diagrams in the same set.

"*The Flower*": *Illustrations of Elementary Anatomical Botany.* (G. Philip & Son.)

This should prove a most useful adjunct to the walls of a classroom; the very terse description given by Mr. A. Johnstone, Lecturer in Botany, Edinburgh School of Medicine, will form "notes" for a good lesson on the subject of the diagram.

Wall Diagrams.—(1) *The Tailor.* (2) *The Carpenter.* (3) *The Blacksmith.* (G. W. Bacon & Co.)

Excellent illustrations of trades for teachers giving object-lessons to classes of young children; they are attractively got up and full of detail.

(1) *Working Diagrams of the High-School Series of Sloyd Models.* Intended to accompany Johannson's "Practical Directions." (G. Philip & Son.) (2) *Fifty Drawings and Directions for making the Sloyd Models.* By Miss Andrén. (O. Newmann & Co.)

Both these works have the same aim—to give the student guidance in working the High-School Series of Sloyd Models. Each has special features of its own. Some will find it most convenient to have verbal directions and diagram side by side on the same card, as in Miss Andrén's work. Others may prefer to have the two apart. Not all Miss Andrén's drawings are to scale, as they should be. Though Mr. Nelson's drawings are the clearer, they do not always embrace the necessary details. If the increased cost be no objection, the student would do well to get the 58 sheets of *Sloyd Diagrams* issued at Nääs, which may be had of Messrs. Philip. In the last issue of these, the Swedish names and terms are supplied with English equivalents.

Introduction to Scientific Chemistry. By F. S. Barff, M.A. Revised by Temple Orme. (O. Newmann & Co.)

The revision shows care and thought.

(1) *The Citizen Reader.* By H. O. Arnold-Forster, M.P. (2) *The Laws of Every-day Life.* By H. O. Arnold-Forster, M.P. (3) *Round the Empire.* By G. R. Parkin. (Cassells.)

The striking novelty of the New Code, which is about to come into operation for evening continuation schools, is that portion relating to the

teaching of the life and duties of the citizen. In connexion with this subject, the unique series of books published by Messrs. Cassell & Co. seem to fully meet the requirements of the Code.

First Lessons in Business Matters. By a Banker's Daughter. (Macmillan.)

The first edition of this handy little manual appeared in 1875. The present edition has been thoroughly corrected.

THE PROPOSED UNIVERSITY FOR WALES.

THE PETITION of the three Colleges (Aberystwith, Bangor, and Cardiff) is as follows:—

1. That for many years past a widespread and growing desire for the benefits of University education has existed in Wales among classes unable to resort to the Universities of Oxford and Cambridge.

2. That to meet this desire a college, under the name of the University College of Wales, was established at Aberystwith in 1872 by spontaneous effort, and largely by contributions from the poorer classes.

3. That the work of the said college being greatly hampered by want of adequate funds and by a paucity of means for intermediate education in Wales, and the general feeling that a legitimate claim existed for Government aid being expressed by the Welsh members in the House of Commons in the session of 1879, a Departmental Committee was appointed by the Lord President of Your Majesty's Council in the following year to inquire into the matter.

4. That in 1881 the said committee reported that a case had been made out for Government aid to both secondary and higher education in Wales: recommending that there should be two State-aided University colleges in Wales, viz., the existing college, either retained at Aberystwith or removed to Carnarvon or Bangor, for North Wales, and another for South Wales, to be established in Glamorgan; and, further, that a degree-granting University should be created in Wales.

5. That, in pursuance of a part of the above recommendations, a grant of £4000 a year was made by your Majesty's Treasury to the University College of Wales in 1882, and a similar grant to the University College of South Wales and Monmouthshire on its establishment and incorporation by Royal Charter in 1883; and that when, on the establishment and incorporation by Royal Charter of the University College of North Wales at Bangor in 1884, the grant previously enjoyed by the original college at Aberystwith passed to the college at Bangor, a separate grant of £2,500 a year, increased in 1885 to £4000, was made to the Aberystwith College, which was incorporated by Royal Charter as the University College of Wales, Aberystwith, in 1889.

6. That the success of these three University colleges has been conspicuous and beyond the anticipations of the Departmental Committee; that at present nearly 650 students are receiving advanced education at their hands, and that this number may reasonably be expected to be greatly increased when the schools about to be established under the Intermediate Education Act, 1889, come into being.

7. That during the past twelve months one-eighth of the degrees of B.A. and B.Sc. conferred by the University of London have been gained by students of these colleges.

8. That for the due development of the higher or University education given in these colleges the same need of incorporation in a degree-giving University organization which was experienced by the colleges now incorporated in the Victoria University is felt, and renders it urgently desirable that the remainder of the recommendations of the Departmental Committee should be carried into effect.

9. That since the year 1887 many conferences and public meetings of Welsh educationists have been held to consider the matter, and have, with one accord, expressed a desire for the establishment of a University in and for Wales.

10. That a deputation from a conference of representatives of the three University colleges held to consider the matter, having waited on the Lord President of Your Majesty's Council in the year 1889, were invited by him to prepare a draft charter for such a University and submit it to him.

11. That, in pursuance of this invitation, a conference of representatives of the three University colleges and of the joint County Education Committees of Wales and Monmouthshire have, after mature deliberation, prepared such a draft, and that the said draft, having been approved by the said three colleges and also by the members of the said committees in conference assembled and by the majority of the County Councils of Wales and Monmouthshire, your petitioners have now laid the said draft before the Lord President of Your Majesty's Council.

12. Your petitioners are further desirous that Your Majesty should be the Visitor of the University.

OBJECTIONS have been lodged on behalf of Lampeter, seeking that consent may be withheld until arrangements have been made for its inclusion.

The DRAFT CHARTER contains the following (among less important) provisions:—

Constitution.—Women shall be eligible equally with men for admittance to any degree which the University is by this our charter authorized to confer. Every office hereby created in the University and the membership of every authority hereby constituted shall be open to women equally with men.

Authorities.—The authorities of the University shall be:—The Visitor, the Chancellor of the University (hereinafter called the Chancellor), the University Court (hereinafter called the Court), the Vice-Chancellor of the University (hereinafter called the Vice-Chancellor), the University Senate (hereinafter called the Senate), and the Guild of Graduates.

Court.—1. The Court shall be the supreme governing body of the University.

2. The Court shall consist of the persons following, namely:—(1) The Chancellor. (2) Thirteen persons appointed by the Lord President of our Council. (3) Persons appointed by the county councils of counties, or by the mayor, aldermen, and burgesses of county boroughs now existing or which may hereafter be created within the limits of Wales and Monmouthshire at the rate of one person at least by each of the said county councils, or by the mayor, aldermen, and burgesses of each county borough respectively, and one further person for every completed hundred thousand of population within the limits of jurisdiction of the said county councils or of the mayor, aldermen, and burgesses of the said county boroughs respectively, as determined by the then last official census. (4) Four persons appointed by the Court of Governors of each of the colleges hereinafter declared constituent colleges of the University, one of which said four persons shall be the President of each such college respectively, unless such President shall then already be Chancellor of the University. (5) Four persons appointed by the Council of each of the said colleges, one of which said four persons shall be the Principal of each such college respectively. (6) Four persons appointed by the Senate of each of the said colleges. (7) Thirteen persons appointed by the Guild of Graduates. (8) Three persons appointed by the head teachers of public intermediate schools in Wales, all of which said three persons so appointed shall be head teachers of, and one at least of whom shall be a head mistress of, one of such public intermediate schools. (9) Three persons appointed by the head teachers of public elementary schools in Wales, all of which said three persons so appointed shall be head teachers of, and one at least of whom shall be a head mistress of, one of such public elementary schools. (10) Six further persons appointed by the Central Board for the control of the intermediate schools established under "The Welsh Intermediate Education Act, 1889," if and so soon as such Central Board shall be constituted by the Joint Education Committee of Wales.

3. Of the persons to be appointed by the Lord President of our Council three persons so appointed shall hold office until death or resignation, and on the death or resignation of any such person the said Lord President may appoint another person to hold office until death or resignation. Of the ten other persons appointed by the Lord President of our Council, two persons so appointed shall hold office for one year, two other persons so appointed shall hold office for two years, two other persons so named shall hold office for three years, two other persons so appointed shall hold office for four years, and the remaining two persons so appointed shall hold office for five years, the term of office in each case counting from the date of appointment of such persons respectively. On the expiration of the term of office of any person so appointed for a term of years, the said Lord President may appoint the same or another person to hold office for five years from the date of appointment.

3. Every person appointed by a county council other than the council of a county borough shall hold office until the general retirement at the end of the term of office of the members of such county council, and for forty days thereafter.

4. The mode and manner in which the appointment of members of the Court by the head teachers of public schools in Wales shall be made shall be as from time to time determined by the Lord President of our Council by writing under his hand.

The Constituent Colleges.—The three University colleges in Wales, which have been heretofore incorporated by our charter, and at this present time are in receipt of an annual grant from our treasury, shall be, and are, hereby declared constituent colleges of the University.

Degrees.—(1) The Court may, in accordance with its statutes for the time being in force, admit to the initial degree of the University (which shall be that of Bachelor or Master, as the Court shall by statute hereafter determine) in any one of the following faculties, namely, arts or letters, science, technical or applied science, law, music, and such other faculties as may from time to time be established with the sanction of the Visitor, any person who after having pursued in one of the constituent colleges during such period as may be determined by statute of the University a scheme of study, approved for the college and for the degree in question by the Court in the manner hereinafter provided, shall be presented by the said college as having diligently pursued and duly profited by the said scheme of study and as being of good character and conduct, and who after such examination or examinations as may be prescribed by the Court in accordance with this our charter, and with the statutes of the University shall be reported to the Court by the examiners as a proper person to be admitted to the degree in question. Provided always that this our present charter shall confer on the Court no power to admit to any degree in medicine or surgery or in any branch thereof.

2. The Court may, at the request of a constituent college presenting a candidate for a degree, regard studies pursued by the said candidate in any other constituent college or colleges as though they had been pursued during the same period in the college actually presenting. Provided always that such request be acceded to by the other college or colleges in which the said studies have been pursued.

3. The Court may, in consultation with the Senate, take measures to institute and maintain in Wales extra-collegiate courses of instruction, accompanied by examinations such as are commonly called University Extension courses, for the instruction of persons who are unable to attend the courses of the constituent colleges.

4. The Court may recognise attendance upon such extra-collegiate courses or at another University for a limited period as exempting from part of the term of study in a constituent college necessary to graduation, provided that the recognition of lecturers, teachers, and examiners, the regulations respecting the period of attendance upon, and the character and subjects of such courses, and the period of attendance at such other University, and the period of collegiate study for which exemption is to be granted, shall be approved by the Court, and provided also that the Court shall not approve thereof unless the Senate have recommended the same, or unless and until the Senate shall have had a reasonable opportunity of considering and reporting thereupon to the Court.

5. Due diligence and care shall be used by the Court to maintain an equal standard of attainment in all cases as a condition for each particular degree, but it shall not be required of the Court that the schemes of study approved by it for any degree shall be the same for all constituent colleges.

6. Notwithstanding that theology be not a subject taught in any constituent college of the University, the Court may recognise theology as a subject in the faculty of arts or letters: provided, first, that pursuance of a scheme of study in theology, approved by the Court, be a condition precedent to examination in theology in the said faculty, and, secondly, that theology be not made a compulsory subject for any degree in the said faculty.

7. The Court may, in accordance with its statutes for the time being in force, admit to the degree of Bachelor or Master in the faculty of Theology or Divinity—(a) any graduate of the University who, after such scheme of study in a theological college, and after such examination or examinations as the Court may prescribe, shall be reported to the Court by the examiners as being a proper person to be admitted to the said degree; (b) any graduate of any college or University by law established in our United Kingdom, with power to grant degrees in the ordinary faculties, who, after such scheme of study in a theological college in Wales, and after such examination or examinations as the Court may prescribe, shall be reported to the Court by the examiners as a proper person to be admitted to the said degree. Provided that the Court shall have power to define by statute the meaning of the term "theological college."

8. The Court may, in accordance with its statutes for the time being in force, admit to the degree of Bachelor or Master in the faculty of education any graduate of the University who, after such course of study in the theory and practice of education, and after such examination or examinations as the Court may prescribe, shall be reported to the Court by the examiner as a proper person to be admitted to the said degree.

9. The Court may admit any Bachelor of the University to the further degree of Master in the same faculty upon such terms as the Court may prescribe by statute.

10. The Court may admit any Bachelor or Master of the University to the further degree of Doctor in the same faculty upon such terms as the Court may prescribe by statute.

11. The Court may admit, on the recommendation of the Senate, any person to any of its degrees *honoris causa* without conditions of residence or examination.

12. The Court may institute by statute a Matriculation Examination, and may require that such examination or some equivalent University examination be passed by all students before their attendance upon courses of study shall count as attendance qualifying them to become candidates for a University degree.

13. The Court may revoke the degree or degrees of any graduate of the University who shall be convicted within our United Kingdom or its dependencies of felony or of any indictable misdemeanour, and may restore, on cause being shown, any person whose degree has been revoked to the degree he previously enjoyed, or to any lower degree in the same faculty, without further examination.

14. The Court shall not require acquiescence in or renegation of any theory, doctrine, or opinion upon any subject whatever on the part of any candidate as a condition of examination or graduation, or refuse a degree upon the ground of the candidate holding or not holding any such theory, doctrine, or opinion.

15. The Court may authorize academic costumes for members of the University.

Examinations.—1. The Court shall appoint at least one person, who shall not be a member of the teaching staff of any constituent college, as examiner for each subject in which it holds examinations as a qualification for degrees. Examiners so appointed by the Court shall be called external examiners.

2. Every examination conducted by the Court as a qualification for a degree shall be conducted by the external examiners of the University for the subjects concerned jointly with examiners (herein called internal examiners) appointed by the constituent colleges, in such numbers as may be prescribed by statute, and no examiners' report shall be received by the Court unless the external examiners have concurred in the said report.

UNIVERSITIES.

LONDON.

The D.Sc. report ("Physics") outstanding last month has now been posted; the only candidate, Mr. R. W. Stewart, who was marked worthy of the scholarship in Physics at the B.Sc. Examination of 1888, has passed.

The group of Intermediate examinations, with their elaborate system of honours and practical examinations, was held during July. At the Intermediate Examination in Arts, 670 candidates appeared, and 355 (or 53 per cent.) have passed. Last year the numbers were 640 and 271 (only 42·3 per cent.). 51 are in honours, 78 in the first division, 205 in the second, and 21 in the "gulf." 179 of the candidates were women, of whom 117 (65·4 per cent. nearly) pass. Last year the women numbered 133, and the passes 73 (only 55 per cent.). 19 women are in honours (of whom 5 get double honours), 32 in the first division, 59 in the second, and 7 in the gulf. The Latin honours list contains 13 names, 6 being in the first class, of whom 4 are marked worthy of the exhibition; but the first 3 candidates are too old to take it, viz., Mr. H. J. Irwin, of Stonyhurst, Mr. F. G. Plaistowe, a private student (bracketed first), and Mr. J. T. Hodgson, also a private student; the exhibition, therefore, goes to Miss Alice Lunn, of Hamilton Crescent School, Partick, (the only lady in this list,) who also gets second-class honours in German. We ought to add that Mr. J. T. Hodgson's name appears in three other honours lists; and three other male candidates obtain double honours. The English honours list contains 22 names, 9 being those of ladies; there is no first class, and, of course, no award of the exhibition. The French honours list shows 11 names, 4 being those of ladies; the only candidate in the first class is a lady, Miss C. E. Ainslie, of Bedford College, who is recommended for the prize, but is disqualified by age. 14 candidates (10 being ladies) obtain honours in German; the first of the three candidates in the first class, Mr. Julius Steppat, a private student, is recommended for the prize, but is also disqualified by age.

At the Intermediate Examination in Science there were 278 candidates, of whom 144 (51·8 per cent.) pass. Last year the numbers were 262 and 138 (52·7 per cent.). 25 are in honours (four of whom take double honours), 64 in the first division, 50 in the second, and 5 in the gulf. The number of women was 32, of whom 18 (56·2 per cent.) pass, 1 in honours (double), 9 in the first division, and 8 in the second. Of the honours examinations, that in Mathematics is common to Arts and Science, and of the 5 candidates who pass, 3 are, in fact, Arts men, and 2 Science; 3 candidates are in the first class, and all are marked worthy of the exhibition, which is taken by the first in order of merit, Mr. Bertram Hopkinson, of Trinity, Cambridge, who also gets first-class honours in Experimental Physics. The other candidates worthy of the exhibition are Mr. W. H. Austin, of Mason College, and Mr. W. W. Gibberd, of the Leys, Cambridge, a youthful candidate, who obtained the exhibition at the January Matriculation of last year. Mr. Hopkinson is a son of Dr. John Hopkinson, a Senior Wrangler, who, in 1870, took the London D.Sc. Examination in two branches, and who is now a member of the Senate. The honours list in Chemistry comprises 17 names, 5 being those of Preliminary (M.B.) candidates; the exhibition goes to Mr. E. J. Russell, of University College, Aberystwith. 9 candidates (2 being Preliminary candidates) obtain honours in Experimental Physics; the Neil-Arnott Exhibition and first medal go to Mr. J. W. Pickles, of the Royal College of Science and Owens College, and the second Neil-Arnott medal to Mr. W. H. Sodcau, of King's College, who also gets a first class in Chemistry. Seven candidates (including 1 Preliminary) obtain honours in Botany, and 2 Science and 4 Preliminary candidates obtain honours in Zoology; the first in the first class in Zoology, Mr. John Belling, of Mason College, who is the only first-class man in Botany, is too old to take the exhibition, which passes on to the only other candidate in the first class, viz., Mr. Arthur Edmunds, of the Birkbeck Institution and Islington High School.

At the Preliminary Examination in Medicine, 9 candidates obtain honours, 3 of whom take double honours (their distribution is given in the preceding paragraph); 63, including 8 women, pass the whole examination; 58 (5 women) pass in Chemistry and Physics together, and 66 (8 women) pass in Biology only. 17 (2 women) of those who took either honours or the whole pass examination have also passed in the three mathematical papers of the Intermediate Science Examination, and have thus qualified themselves for proceeding to the B.Sc. Examination.

Lastly, at the Intermediate Examination in Medicine, 17 candidates take honours, of whom 7 get double honours, 3 get treble honours, and 1 gets quadruple; 50 pass the whole examination; 15 pass the examination *minus* Physiology; and 13 pass in Physiology alone. One lady gets honours (but only third class) in three subjects, 6 ladies pass the whole examination, and 1 passes without the Physiology. The exhibition and first gold medal in Anatomy are assigned to Mr. H. B. Shaw, of University College, and the second gold medal to Mr. A. W. Sanders, of St. Mary's Hospital, who is also marked worthy of the exhibition; in Physiology the exhibition and first gold medal go to Mr. C. J. Harnett (the quadruple honours man), of Guy's Hospital, and the second medal

to Mr. Alfred Dimsey, of University College; and in Chemistry the exhibition and only gold medal go to Mr. A. J. Rodocanachi, of University College. In Materia Medica, &c., although 4 candidates are in the first class, no one of them appears to have reached the standard of merit required for the exhibition and medal.

The appointment of the Lord Chancellor as Chancellor of the University has created a vacancy in the body of Fellows, which will be filled by a Fellow to be appointed by the Crown.

OXFORD.

An election to a Shute scholarship, lately established for non-collegiate students, will be held on Saturday, October 14th, 1893. The examination will be in classics. Candidates must be in need of assistance at the University. There is no limitation of age, but no person will be eligible who shall have completed eight terms from the date of his matriculation. The scholarship is of the annual value of £50, is tenable for two years from the day of election, and at the expiration of such period may be renewed by the Delegates for a further term not exceeding two years. Candidates are requested to send their names to the Censor of Non-Collegiate Students, Students' Delegation, High-street, Oxford, on or before Monday, October 2nd, 1893, together with testimonials of good character, statement of age, and evidence of need of support at the University.

CAMBRIDGE.

There was a conference at the recent Summer Meeting on "State Aid to University Extension." The Master of Peterhouse presided. Prof. Stuart, M.P., urged the importance of continuity in the courses of lectures given in any centre, and said there was no doubt that a sequence of study extending over several years was the organization at which the University aimed. Those who had founded the movement were generally opposed to Government assistance, and until lately he had felt it to be undesirable, but he thought the time had come when they might again approach the Minister of Education in the matter. Professor Jebb, M.P., said he thought this was a favourable time for approaching the Government, who, he hoped, would be disposed to give them a friendly hearing. He believed that the benefit of such a grant to secondary education would be very great, and, feeling the value of the movement, he should be very glad to co-operate in any way to attain the desired result. The discussion was closed with a speech from Mr. A. Berry, the Secretary for Lectures, who said there were some centres—particularly the very large and the very small—which would benefit by State aid.

COLLEGE OF PRECEPTORS—CERTIFICATE EXAMINATION.

ERRATA IN CLASS LIST (MIDSUMMER, 1893).

FIRST CLASS (GIRLS).

Insert in Hon. Div.: Phillips, E. M., nat. d., Rushmore House, Kidderminster; and omit in Pass Div.

SECOND CLASS (BOYS).

Insert in 1st Div.: Aspinwall, T., Grammar School, Ormskirk.
" Klumpp, R. J., Brixton Grammar School.

THIRD CLASS (BOYS).

Insert in 1st Div.: Gardner, H. C., Catford Collegiate School; and omit in 2nd Div.
Insert in 1st Div.: Pye, E., Argyll House School, Balham; and omit in 2nd Div.
Insert in 2nd Div.: Drummond, M. J., Walden House, Herne Bay.

TEACHERS' DIPLOMA EXAMINATION.

Practical Examination: for Wardley, W. R., read Yardley, W. R.

MATHEMATICS.

11942. (D. BIDDLE.)—The series consisting of the reciprocals of figurate numbers of the third order (1, 3, 6, 10, &c.) is summed, from the n^{th} term onwards to infinity, by $2/n$; or if the number of the first term be not known, but this and the next term be given, then

$$\sum^{\infty} \frac{1}{a} + \frac{1}{a+b} + \&c. = \frac{b}{a}.$$

But n can be found from a alone, although to have to do so renders the summation a more lengthy process.

Solution by H. W. CURJEL, B.A.; Professor MOREL; and others.

$$u_n = \frac{2}{n(n+1)} = \frac{2}{n} - \frac{2}{n+1}; \text{ therefore } \sum_n^{\infty} \frac{2}{n(n+1)} = \frac{2}{n}.$$

If $a = \frac{n(n+1)}{2}$, and $a+b = \frac{(n+1)(n+2)}{2}$, $\frac{b}{a} = \frac{2}{n}$;

$$\text{therefore } \sum^{\infty} \frac{1}{a} + \frac{1}{a+b} + \dots = \frac{b}{a}.$$

[Moreover, since $a = \frac{1}{2}n(n+1)$, the last clause of the question is explained, for $n^2+n=2a$; whence $n = \frac{1}{2}\{(8a+1)^{\frac{1}{2}}-1\}$ and

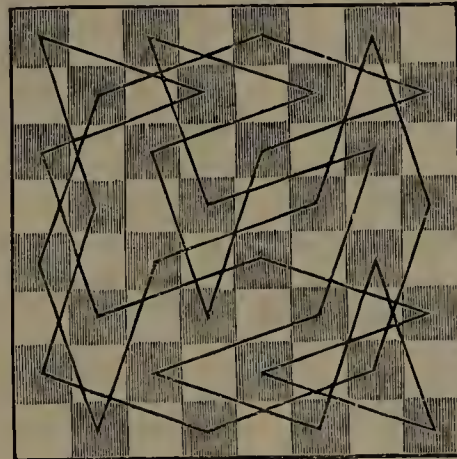
$$\sum^{\infty} 1/a + \dots = 4/\{(8a+1)^{\frac{1}{2}}-1\}.$$

7763. (B. REYNOLDS, M.A.)—Assuming that a knight's move con-

sists of two castle-moves followed by one bishop-move, construct (1) a reentrant knight's tour, to cover all the black squares of a chess-board; and find (2) how many squares can be covered by a knight whose moves consist of two bishop-moves followed by one castle-move.

Solution by H. W. CURJEL, B.A., and the PROPOSER.

1. This may be done by the same method as an ordinary knight's tour, namely, by forming a tour (not complete) generally moving to the square which commands least vacant squares, and then deforming the tour so as to cover the unused squares. Such a tour is given in the annexed figure.



[The rest in Volume.]

11947. (W. J. GREENSTREET, M.A.)—If AB be a chord of a circle centre O, find the locus of the orthocentre of the triangle OAB as AB turns round O.

*Solution by W. J. DORNS, B.A.;
R. KNOWLES, B.A.;
and others.*

Let BQ be perpendicular on OA, and OP perpendicular on BA. Then, if

$$\angle POA = \theta$$

and

$$OP = r,$$

and

$$\text{radius of circle} = a,$$

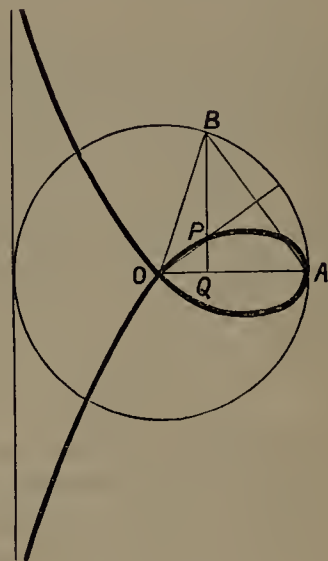
we see that

$$\angle AOB = 2\theta;$$

$$\therefore OP \cos \theta = OQ = OB \cos 2\theta;$$

$$\therefore r = \frac{a \cos 2\theta}{\cos \theta},$$

the polar equation of the locus required.



11968. (Professor ROGEL.)—Find the values of the infinite products, especially

$$(1) \prod_{p=2}^{\infty} p^{(1/p) \sin 2p\mu\pi},$$

$$\frac{5^{\frac{1}{2}} \cdot 9^{\frac{1}{3}} \cdot 13^{\frac{1}{4}} \dots (4n+1)^{\frac{1}{(4n+1)}}}{3^{\frac{1}{2}} \cdot 7^{\frac{1}{3}} \cdot 11^{\frac{1}{4}} \cdot 15^{\frac{1}{5}} \dots (4n+3)^{\frac{1}{(4n+3)}}}, \quad \frac{4^{\frac{1}{2}} \cdot 7^{\frac{1}{3}} \cdot 10^{\frac{1}{4}} \dots (3n+1)^{\frac{1}{(3n+1)}}}{2^{\frac{1}{2}} \cdot 5^{\frac{1}{3}} \cdot 8^{\frac{1}{4}} \cdot 11^{\frac{1}{5}} \dots (3n+2)^{\frac{1}{(3n+2)}}};$$

$$(2) \prod_{p=3}^{\infty} p^{1/((-1)^{\frac{1}{2}(p-1)}p-1)}; \quad (3) \prod_{p \equiv 1 \pmod{4}} p^{p/(p^2-1)} \cdot \prod_{p \equiv 3 \pmod{4}} p^{-1/(p^2-1)}.$$

Solution by the PROPOSER.

$$\text{Subtracting } \log 2 \sum_{p=1}^{\infty} 1/p \sin 2p\mu\pi = \frac{1}{2}\pi(1-2\mu) \log 2, \quad 0 < \mu < 1$$

from

$$\sum_{p=1}^{\infty} \frac{\log 2p}{p} \sin 2p\mu\pi$$

$$= \pi \{ \log \Gamma(\mu) - (1-\mu) \log \pi - c(\frac{1}{2}-\mu) + \frac{1}{2} \log \sin \mu\pi \}, \quad c = 0.557\dots,$$

it becomes

$$\sum_{p=1}^{\infty} \frac{\log p}{p} \sin 2p\mu\pi = \pi \{ \log \Gamma(\mu) - (1-\mu) \log \pi - c(\frac{1}{2}-\mu) + \frac{1}{2} \log \sin \mu\pi - (\frac{1}{2}-\mu) \log 2 \}, \quad 0 < \mu < 1 \dots \dots \dots (1).$$

[The rest in Volume.]

7539. (Professor WOLSTENHOLME, M.A., Sc.D.)—(Generalization of Question 6809; solved in *Reprint*, Vol. 36, p. 100.)—Four points S, A', A, X are taken on a straight line, so that SA' = AX; the point S will be called the focus, and the straight line through X at right angles to SX the directrix. Any point P being taken in the plane, another point Q is determined as follows: PM is let fall perpendicular on the directrix and SP, AM intersect in Q; prove that (1) the loci of P, Q will be curves of the same order and class; (2) the tangents at P, Q will always intersect on the directrix; (3) if QN be let fall perpendicular on the directrix,

N, P, A' will be collinear; (4) if the locus of P be a conic having the given focus and directrix, so also will the locus of Q; (5) if the locus of P be a parabola having S for focus and A' for vertex, that of Q will be a parabola with S focus and A vertex; (6) if the tangents at P, Q include a given angle, their loci will be both parabolas with focus S, A' A points on the tangents at their vertices and directrices making the given angle with SX in opposite directions; or, will be corresponding tangents to these two parabolas.

Solution by H. W. CURJEL, B.A.

Let PN cut SX in A''; then, from similar triangles,

$$XA : QN = MX : MN = PS : PQ \\ = A''S : QN;$$

$$\therefore XA = A''S;$$

$$\therefore A'' \text{ coincides with } A';$$

i.e., N, P, A' are collinear ... (3).

Let a point P' determine M', Q', N' as M, Q, N were determined by P, and let PP', QQ' cut the directrix in p and q.

$$\text{Now } PM : XA' = MN : XN;$$

$$P'M' : XA' = M'N' : XN'.$$

$$QN : XA = MN : XM,$$

$$Q'N' : XA = M'N' : XM'.$$

[The rest in Volume.]

10406. (EDITOR.)—If at each point P of the curve $r = 8a \cos^3 \frac{1}{3}\theta$ we take a length PQ = 3a along the normal at P towards the centre of curvature, the locus of Q will be a two-cusped epicycloid generated by a circle of radius a rolling on a fixed circle of radius 2a, the centre of this fixed circle being at a distance a from the origin. [The evolute of the curve $r = 8a \cos^3 \frac{1}{3}\theta$ is a similar epicycloid of half the linear dimensions.]

Solution by Professors ZERR, MADHAVARAO, and others.

Let P be any point of the given curve, O its origin, DP tangent at point P, OP perpendicular from origin on tangent, PQ normal at point P, PQ = 3a.

From the equation to the curve,

$$dr/rd\theta = -\tan \frac{1}{3}\theta;$$

$$\therefore \angle POD = \angle OPQ = \frac{1}{3}\theta.$$

$$(OQ)^2 = r^2 + 9a^2 - 6ar \cos \frac{1}{3}\theta$$

$$= 64a^2 \cos^6 \frac{1}{3}\theta + 9a^2 - 48a^2 \cos^4 \frac{1}{3}\theta$$

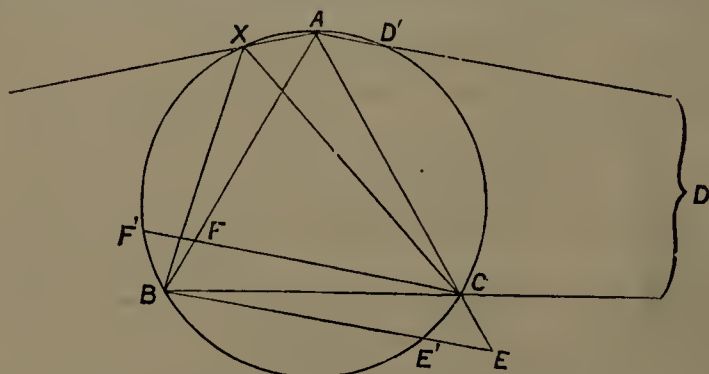
..... (1).

[The rest in Volume.]

11281. (A. J. PRESSLAND, M.A.)—If three parallel lines be drawn through the vertices of a triangle, prove that their isotoms intersect on the minimum ellipse.

Solution by H. W. CURJEL, B.A.

The triangle may be projected orthogonally into an equilateral triangle, and the minimum ellipse becomes the circumcircle.



Let AD, BE, CF be three parallel straight lines through the vertices A, B, C of the equilateral triangle ABC, cutting the opposite sides in D, E, F, and the circumcircle in D'E'F'. Let F fall between A and B. Angles E'CB, ACD' evidently = angle BCA. [The rest in Vol.]

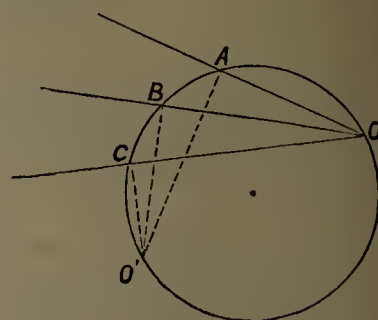
11994. (Professor MORLEY.)—In a plane table are three straight collinear grooves which meet at a point O. A rigid plane lamina has three little projecting feet, A, B, C, which are placed in the grooves. Prove that the lamina can move on the table if the circumcircle ABC passes through O.

Solution by H. W. PYDDOKE, M.A.

Draw perpendiculars at A, B meeting at O'. Then O' must be the centre of motion, when motion is possible; and if C is to move, OCO' must also be a right angle. Thus the condition that motion should be possible is that the perpendiculars at A, B, C should meet in a point.

But if we are given that O is on the circle ABC, then find O', the other end of the diameter through O.

[The rest in Volume.]



11972. (Professor BERNÈS.)—De part et d'autre du point A, commun à deux circonférences O et O', on porte sur le rayon AO, de l'une, deux longueurs égales AL, AM; et, des points L et M comme centres, avec LA, MA comme rayons, on trace deux circonférences qui coupent la circonférence O' en B' et C'. Si B et C sont les points où AB', AC' rencontrent la circonférence O, et que AD soit une corde de O tangente à O', et AD' une corde de O' tangente à O, démontrer que chacun des quadrilatères ABCD, A'B'C'D' est harmonique.

Solution by Professor DROZ FARNY.

Les points M, A, L et le point R à l'infini sur LM étant harmoniques, on aura faisceau O' (MALR) = -1.

Comme les cordes AC', AD, AB', AD' sont respectivement perpendiculaires sur les cordes O'M, O'A, O'L et O'R, on a aussi

$$A(C'AB'D') = A(CDBA) = -1,$$

ce qui justifie la proposition énoncée.

12004. (Professor PELLETREAU.)—Si, dans un triangle rectangle, on abaisse la hauteur relative à l'hypoténuse et qu'on inscrive des cercles dans le triangle primitif et les deux triangles rectangles résultants, la distance des centres des deux derniers cercles est égale à la distance du centre du premier cercle au sommet de l'angle droit du triangle rectangle donné.

Solution by W. H. HOOKER, M.A.; J. BOLAND; and others.

Let A be the right angle; P, Q, R the centres; p, q, r the radii of the in-circles; then, since in $\triangle APM$, $\angle PAM = 45^\circ$,

$$PA = p\sqrt{2};$$

similarly, $DQ = q\sqrt{2}$,

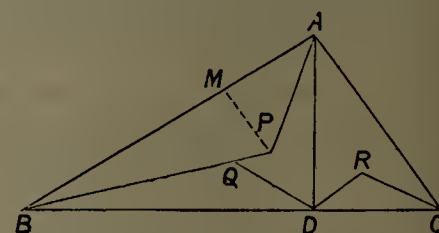
$$DR = r\sqrt{2}.$$

Since triangles are similar,

$$p : q : r = BC : AB : AC, \quad PA : QD : RD = BC : AB : AC;$$

$$\therefore PA^2 = QD^2 + RD^2 = QR^2.$$

Hence the theorem follows.



11866. (Professor MANDART.)—Soient M, N deux points correspondants d'une ellipse et du cercle décrit sur le grand axe comme diamètre. Le rayon OM de l'ellipse rencontrant en P la tangente menée en N au cercle, on demande l'aire de la courbe engendrée par le point P.

Solution by H. W. CURJEL, B.A.; Professor BEYENS; and others.

The equations to NP and OM are

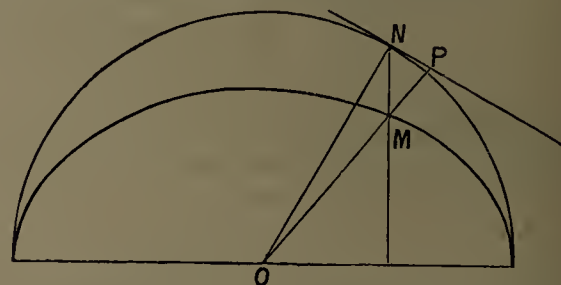
$$x \cos \phi + y \sin \phi = a,$$

$$\frac{x}{a \cos \phi} = \frac{y}{b \sin \phi};$$

therefore, at P,

$$x = \frac{a^2 \cos \phi}{a \cos^2 \phi + b \sin^2 \phi},$$

$$y = \frac{ab \sin \phi}{a \cos^2 \phi + b \sin^2 \phi}.$$



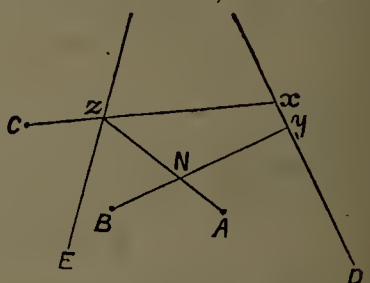
[The rest in Volume.]

662. (T. T. WILKINSON.)—A circle O, and three right lines A, D, C are given in position; it is required to circumscribe the given circle by a triangle DEF whose angular points lie on the given lines.

Solution by W. J. GREENSTREET, M.A.; Professor MOREL; and others.

Let A, B, C be any three points, D and E two lines. We can describe a triangle LMN; having the angle N equal to a given angle, its vertices L, M on the lines D, E, and the sides passing through A, B, and C.

Draw through C any line Czx, meeting D and E in z and x. Joining Az, draw By making with Az an angle N. Then x, y give two homographic divisions on D, the double points of which give two solutions.



[The rest in Volume.]

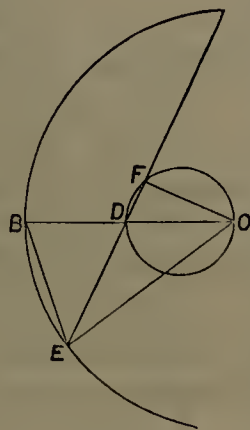
11468. (A. J. PRESSLAND, M.A.)—Examine the following approximation. Take a radius OB of a circle, centre O. Bisect it in D. On OD as diameter describe a circle. Make the angle DOF = $22\frac{1}{2}^\circ$, cutting this circle in F. Join FD and produce to cut the larger circle in E. BE is approximately the side of the regular nonagon in the larger circle.

Solution by H. J. WOODALL, A.R.C.S.

In the figure we have the angles
 $OBE = OEB = \frac{1}{2}\pi - \theta$, $BOE = 2\theta$, $BDE = \frac{3}{8}\pi$,
 $BED = \frac{1}{8}\pi + \theta$, $DEO = \frac{3}{8}\pi - 2\theta$,
 $BD/DE = DO/DE$;
 $\therefore \sin BED/\sin DBE = \sin DEO/\sin DOE$;
 $\therefore \sin(\frac{1}{8}\pi + \theta)/\cos \theta = \sin(\frac{3}{8}\pi - 2\theta)/\sin 2\theta$;
 $\therefore \sin \frac{1}{8}\pi + \cos \frac{1}{8}\pi \tan \theta = \sin \frac{3}{8}\pi \cot 2\theta - \cos \frac{3}{8}\pi$;
 $\therefore 2 \sin \frac{1}{8}\pi = \cos \frac{1}{8}\pi (\cot 2\theta - \tan \theta)$
 $= \cos \frac{1}{8}\pi (1 - 3 \tan^2 \theta)/2 \tan \theta$;
 $\therefore 3 \tan^2 \theta + 4 \tan \theta \cdot \tan \frac{1}{8}\pi - 1 = 0$ gives
 $\tan \theta = .363844$;

whence $\theta = 19^\circ 59' 6''$ nearly, whereas for nonagon θ should be 20° .

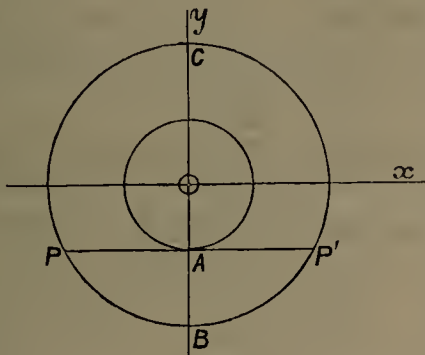
[Mr. PRESSLAND's angle is $19^\circ 59' 37.75''$.]



12002. (Professor MOREAU.)—D'un point fixe comme centre, on décrit deux cercles dont la différence des rayons est constante. Lieu des extrémités des cordes du grand cercle parallèles à une direction donnée et tangentes au petit cercle.

Solution by V. J. BOUTON, B.Sc.;
W. H. HOOKER; and others.

Let radius of smaller circle
 $= r = OA$,
and that of larger circle $= r + a$.
Then
 $x^2 = PA^2 = BA \cdot AC = a(2r + a)$
 $= a(a - 2y)$;
 $\therefore x^2 = a(a - 2y)$.
A parabola touching the axis of x
at O and vertex downwards.



QUESTIONS FOR SOLUTION.

12053. (Professor SYLVESTER.)—Given an equation-system (six equations to find six quantities) as follows:—

$$\begin{aligned} x + y + z &= u, & \xi + \eta + \zeta &= -n, \\ i(y + z) + j(z + x) + k(x + y) &= xy + xz + yz - \xi\eta - \xi\zeta - \eta\zeta \\ &= i(\eta + \zeta) + j(\zeta + \xi) + k(\xi + \eta), \\ iyz + jzx + kxy &= xyz - \xi\eta\zeta = i\eta\zeta + j\xi\zeta + k\xi\eta; \end{aligned}$$

show that there are in all seven solutions which break up into two groups, one a group of three determinable by a cubic equation, the other a group of four subdivisible into two pairs depending on the solution of a double quadratic equation. Also find what happens to the two systems of solutions when two of the coefficients i, j, k become equal to one another.

12054. (Professor ZERR.)—All that is known concerning the veracities of three persons, A., B., and C., is that C.'s statements are m times as reliable as B.'s, and B.'s m times as reliable as A.'s. What is the probability of the truth of the concurrent testimony of these three persons.

12055. (Professor CLAYTON.)—ABCD is a quadrilateral figure formed by four lines of curvature on an ellipsoid. If p, q, r, s be the central perpendiculars on the tangent planes at A, B, C, D, respectively, then $pr = qs$.

12056. (Professor MACFARLANE.)—Find the theorems in Spherical Trigonometry which correspond to the following in Plane Trigonometry:—
 $\cos C + \cos D = 2 \cos \frac{1}{2}(C + D) \cos \frac{1}{2}(C - D)$, $\cos C - \cos D = \&c.$,
 $\sin C \pm \sin D = \&c.$

12057. (Professor RAMASWAMI AIYAR.)—Prove that an harmonic polygon can be inverted into one having any assigned point (within the circumcircle) for its symmedian point.

12058. (Professor NEUBERG.)—Une surface S est engendrée par une parabole P de forme invariable, dont l'axe A a une direction constante et dont le plan passe par une droite fixe OZ parallèle à l'axe de la courbe. Trouver l'équation aux dérivées partielles de cette surface, (1) lorsque la distance entre OZ et l'axe a reste constante et que le sommet glisse le long de a d'après une loi quelconque; (2) lorsque le sommet se projette sur OZ en un point fixe et que la distance entre OZ et a change d'après une loi quelconque.

12059. (Professor BERNÈS.)—M étant un point quelconque pris dans le plan d'un triangle ABC, démontrer que les puissances de A, B, C

relativement aux circonférences circonscrites à MBC, MCA, MAB et la puissance de M relativement à la circonférence circonscrite à ABC sont inversement proportionnelles aux aires des triangles MBC, MCA, MAB, ABC. Montrer (en tenant compte des signes) que la somme des inverses de ces quatre puissances est nulle.

12060. (Professor PRADEL.)—De toutes les droites qui partagent la surface d'un triangle dans un rapport donné, quelle est celle dont la longueur est la plus petite possible?

12061. (Professor VERRINA.)—Parmi tous les triangles acutangles inscrits dans un même cercle, quel est celui pour lequel le produit des segments déterminés sur une hauteur par le point de rencontre des deux autres est maxima?

12062. (Professor REBUFFEL.)—Deux points mobiles M et M' se déplacent sur une droite XY de façon que le produit OM . OM' de leurs distances à un point fixe O de cette droite soit constante; (1) si par les points M, M', et un point fixe P, on fait passer une circonférence C, trouver le lieu de son centre, et (2) si par les points M, M' on fait passer une circonférence C' tangente à une droite fixe D, trouver le lieu de son centre.

12063. (Professor CUNY.)—Une droite mobile tourne autour d'un point fixe P; elle rencontre deux droites fixes D, D' respectivement en A, B; trouver le lieu du milieu du segment AB. Ce lieu peut-il se réduire à des droites?

12064. (Professor FLEURANCEAU.)—Sur un diamètre AB d'un cercle O, on prend deux points M, N équidistants du centre O; on joint les points M, N, O à un point quelconque P de la circonférence par des droites qui rencontrent cette même circonférence en C, D, T. Démontrer que les droites AB, CD se coupent sur la tangente en T au cercle.

12065. (Professor BARISIEN.)—Si par le point de rebroussement d'une cardioïde on mène trois droites inclinées l'une sur l'autre de 60° , ces droites rencontrent chacune la cardioïde en deux points autres que le point de rebroussement. Les tangentes à la cardioïde en ces deux points sont rectangulaires et leur point d'intersection se trouve sur un cercle fixe.

12066. (Professor MORLEY.)—Referring to CASEY's *Analytical Geometry*, second edition, p. 437, prove that the Hessian points of the triangle in which the medians (or altitudes) cut the orthocentroidal circle are the equiangular points of the fundamental triangle. [The points which in accord with BELTRAMI's Memoir (see *Quarterly Journal* for June, 1891) are here called Hessian points, are called isodynamic centres by Professor NEUBERG, and centres of inversion by Professor CASEY; and the equiangular points are the same as the "isogone centres." See *Sequel to Euclid*, sixth edition, by Professor DOWLING, pp. 223, 258.]

12067. (EDITOR.)—If, in the sides AB, BC, CD, DA of a quadrilateral, points E, F, G, H be taken such that

$$AE : EB = BF : FC = CG : GD = DH : HA,$$

prove that

$$\triangle AEH + \triangle CFG = \triangle BEF + \triangle DGH$$

12068. (D. BIDDLE.)—A sphere, of radius = unity, is pierced by two hollow cylinders, one immediately within the other, their surfaces being generated by lines distant from the axis $r, r - p$, and $r, r + p$ respectively ($r + p < \frac{1}{2}$), and their extremities being rounded to correspond with the spherical surface. Find the distance x of their common axis from the centre of the sphere, in order that the solid contents of the two hollow cylinders may be equal.

12069. (A. E. JOLLIFFE.)—Two conics S and S' touch at a point P, and the ratio of the curvatures of S and S' at P is $\cos^2 m\pi/n$, where m is any integer less than n and prime to it. Prove that polygons of n sides can be inscribed in S' and circumscribed to S.

12070. (R. TUCKER, M.A.)—The polars of A, B, C with respect to the Brocard circle intersect in l, m, n . Show that Al, Bm, Cn meet in a point whose polar with respect to the same circle is

$$a/a^3 + \beta/b^3 + \gamma/c^3 = 0 \dots\dots\dots (1).$$

If the polar of A meets AC in E, and AB in F, and BE, CF meet in a (b, c for the other polars), then Aa, Bb, Cc meet in $a/a^3 = \beta/b^3 = \gamma/c^3$. The polars also meet the sides of the triangle where the line (1) meets them.

12071. (J. GRIFFITHS, M.A.)—Through each angular point of any triangle circumscribing a parabola a line is drawn parallel to the opposite side; prove that the new triangle formed by these three lines is self-conjugate with respect to the parabola. Hence, show that the nine-point circle of any triangle self-conjugate with respect to a parabola passes through the focus, and that the centre of its circumscribing circle lies on the directrix.

12072. (H. J. WOODALL, A.R.C.S.)—Prove that

$$1^n + 2^n + \dots + (p-1)^n$$

is divisible by p when p is prime. [The PROPOSER thinks that a direct proof may be obtained, also that the problem may be attacked, indirectly, in several ways.]

12073. (M. BRIERLEY.)—ABC is a plane triangle, obtuse at C, inscribed in the circle ACBE; perpendicular to the base AB, draw BE meeting the circle in E, and produce it so that EF = AC. Through the points A, B, F, describe another circle intercepting AC in D. Then will the distance of the centres of the two circles be equal to $\frac{1}{2}AC$, and CD will be equal to the perpendicular from C upon the base AB.

12074. (E. WHITE, B.A.)—If a number N be expressed in any scale of notation, radix r say, and a new number be formed from it by adding to it the sum of its digits, and this number be treated in the same way, and so on, then no number of the series will be a multiple of $r-1$, unless N itself be a multiple, or unless $r-1$ equal some power of 2.

12075. (J. F. HUDSON, M.A.)—If a and b are any two numbers prime to one another, show that every other number is of the form $ax-by$, where x and y are integers.

12076. (I. ARNOLD.)—In a right line given in position, to find a point from which if two right lines be drawn to two given points, the sum of their squares shall be equal to a given square.

12077. (W. J. GREENSTREET, M.A.)—Prove that the series, general term $(n \log n \log \log n)^{-1}$, is divergent.

12078. (Correction of 10677. R. KNOWLES, M.A.)—ABCDEFGH is a heptagon inscribed in a conic, so that the lines joining the poles of AB, BC, CD to the points E, F, G respectively concur in O. Prove that those joining the poles of DE, EF, FG, GA to A, B, C, D respectively, also concur in O.

12079. (R. A. ROBERTS, M.A.)—A particle moves freely in a plane which passes through the axis of a uniform circular plate attracting according to the law of the inverse fifth power of the distance; if the velocity in any position be that from infinity under the action of the force, show the orbit is a nodal bicircular quartic, of which the two points in the plane on the circumference of the plate are foci. Show also that this quartic may become a confocal conic or a circle with respect to which the two points are inverse, if the particle move initially in the tangent to either of these curves.

12080. (SARAH MARKS.)—Prove that, if it be possible to draw a straight line through a given point such that the part of it intercepted between two given lines at right angles to each other shall be of given length, it is possible to trisect any angle.

12081. (J. HAMMOND, M.A.)—A. and B., who are partners at whist, have neither of them a card of higher value than a nine; find the chance of the occurrence of such an event, and the number of hands that must be played before there is an even chance of its recurrence.

12082. (C. J. MONRO, M.A.)—"Provided that the motion shall not be carried unless there shall be more than 200 for it or less than 40 against it." Interpret fully, taking account of suppressed premises.

12083. (W. S. B. WOOLHOUSE, F.R.A.S.)—If five points be taken at random on the surface of any convex quadrilateral, prove that the probability that they will be the corners of a pentagon having one, and one only, reentrant, will be $\frac{5}{6}$.

12084. (ELIZABETH BLACKWOOD.)—If A, a , B, b , C, c are six points taken at random in the perimeter of a square, find the chance that straight lines equal to Aa, Bb, Cc can be the sides of a triangle.

12085. (G. F. WALKER, M.A.) n equal uniform rods of mass m are freely jointed together, end to end, and placed in the form of a regular polygon, AA₁A₂...A_{n-1}, of n sides. The joints A₂, A₃, ... A_{n-2} are then joined to A by light inelastic strings which are just tight, and the system is hung up by the joint A and hangs in a vertical plane under the action of gravity. Show that the tension of the string AA₁ is $2mg \sin(\pi/n)$.

12086. (A. E. THOMAS, M.A.)—Show how to obtain integral solutions of the equations $x^3 + y^3 = z^2$, $x^3 + y^3 = z^3$, $x^3 + y^3 = z^4$.

12087. (Rev. T. P. KIRKMAN, M.A., F.R.S.)—Denoting by ${}^fP_x$ the number of the filled k -partitions of x , in which any parts ≥ 0 are allowed, with any repetitions, and by ${}_kP_x$ the number of such partitions which exclude zero but admit repetitions, prove that ${}^fP_x = {}^fP_{(x-k)} + {}_{k-1}P_x$. This makes the tabulation of ${}^fP_x$ a far easier task than any before invented, even in the elements of number; for it requires no number ${}_kP_x$ ($x > 2$) to be written which is not, whatever be k or x , the sum of two given terms already entered. [Forty years ago, a formula very like the above, which did the same for the tabulation of ${}_kP_x$, was given by Mr. KIRKMAN in the *Memoirs of the Lit. and Phil. Soc. of Manchester* (vol. XII., 1853-4, p. 129).]

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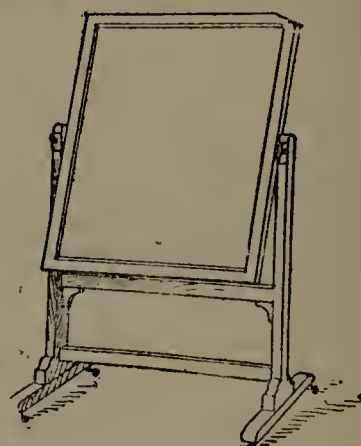
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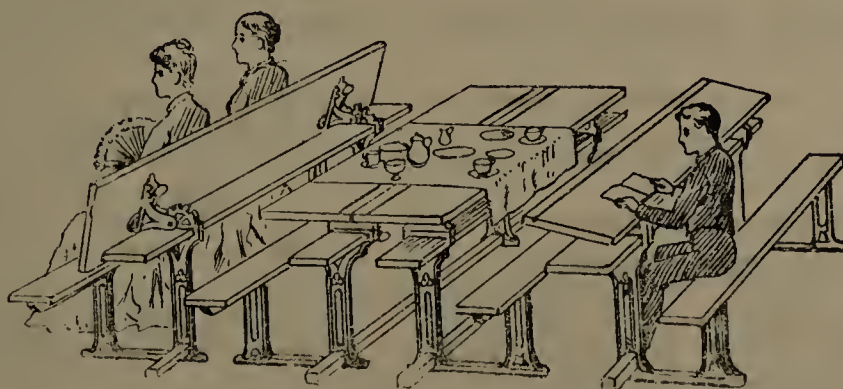
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AND

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OCTOBER 1, 1893.

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Public Distribution of Diplomas, Prizes, and Certificates to the successful candidates at the Midsummer Examinations of Teachers and of Pupils will be held at the College, Bloomsbury Square, on Saturday, the 14th of October, at 3 p.m. The Chair will be taken by the Rev. J. C. E. WELLDON, M.A., Headmaster of Harrow School.

COLLEGE OF PRECEPTORS.— EXAMINATIONS FOR 1893.

1. **DIPLOMAS.**—The Christmas Examination of Teachers for the Diplomas of the College will commence on the 2nd of January, 1894.—At the Midsummer Examination in 1894, holders of Diplomas may be examined practically for Certificates of Ability to Teach.

2. **CERTIFICATE EXAMINATIONS.**—The Examination for Certificates will commence on the 5th of December.

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3. **EXAMINATIONS FOR CERTIFICATES OF PROFICIENCY IN MERCANTILE SUBJECTS.**—The next Examination will take place on the 4th of December.

4. **PROFESSIONAL PRELIMINARY EXAMINATIONS.**—These Examinations are held in March and September. The next Examination will commence on the 6th of March, 1894.

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* * A Doreek Scholarship, of the value of £20, will be awarded at the Diploma Examination at Christmas next, to the Candidate who, having attended two courses of the Training Class Lectures during the preceding 12 months, and having passed the full examination for a College Diploma, stands first in the examination in the Theory and Practice of Education.

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The Educational Times.

THE very interesting lecture on "The Work of the Universities for the Nation," which Professor Jebb delivered at the recent Cambridge Summer Meeting, has been published in handy pamphlet form by the University Press. The words "Past and Present" follow the title above quoted; at the end of the address itself, however, there is a hint about the future, which is the reason for our calling attention to it here. In another column we give several quotations from the historical portions of this learned address; in this place there is only one passage to which we particularly desire to direct our readers' notice. It is that in which he deals with the perpetual want of funds which vexes public movements as well as public men. "The great object now is to place University Extension on a more permanent and systematic basis," and this desirable result is to be attained (it appears) by ampler pecuniary provision, and by that only.

"The case for aid from the State is a strong one, and has been stated more than once with a force to which nothing can be added. It has been pointed out that the State spends three millions a year on elementary education, and that a small grant—say £5000 a year—to University Extension—a grant which might, in the first instance, be temporary and tentative—would greatly increase the value of the return which the country obtains for the larger expenditure. Elementary instruction, unless crowned by something higher, is not only barren, but may even be dangerous. It is not well to teach our democracy to read, unless we also teach our democracy to think."

Since, then, we have here, in Professor Jebb's opinion, the strongest argument for the State endowment of Extension, and since Professor Jebb himself may be taken to represent very fairly the attitude of Cambridge Extension, which has hitherto not been nearly so anxious for public subsidies as Oxford has shown itself, it may be well to examine his contention somewhat closely. Yet we doubt whether it will stand much scrutiny, for we find we are asked to believe

(i.) that elementary education is appropriately "crowned" by Extension lectures;

(ii.) that the Universities are fit and entitled to be entrusted with funds for perfecting elementary education and

administering "something higher" to the rustic and the artisan; and

(iii.) that "our democracy" is anxious to attend Extension lectures, and is likely to be "taught to think" by such a proceeding.

To show that any one of these assumptions is baseless would be sufficient to weaken seriously Professor Jebb's claim; but, as a matter of fact, the mere translation of them into such unrhettorical and bald form as we have given them must be almost enough to disprove them all to anyone who knows anything about Universities, elementary education, and Extension. It is probably in connexion with the second of these subjects that Professor Jebb's information is deficient: else he would surely know that a young man or woman whose education stopped short at Standard VI. cannot profitably continue it with twelve lectures on Eighteenth-Century Poetry, a course on Political Economy, or a set of excursions in connexion with English Architectural Styles, as a finish. We have nothing to say against these subjects as part of the Extension syllabus; but, as a "crown" for the Board-school boy who has become a working-man, for the Board-school girl who has become a sempstress, they seem a little inadequate. And the fact that such a theory is held by a Fellow of Trinity, who is so distinguished as a scholar as to hold the post of Regius Professor of Greek, and so successful as a man of affairs as to be his University's chosen representative in Parliament, goes a long way to prove the unsoundness of his second contention. Oxford and Cambridge are not fit to administer the funds for a scheme of national continuation schools, and it would be discreditable to them, rather than the reverse, if they were. Their function is a perfectly different one, as Professor Jebb certainly knows as well as any man; and so long as they encourage learning whether it "pays" or not, provide facilities for research whether it lends itself to immediate practical results or not, and continue to be a fitting soil for "that first and most distinctive flower of English national life, an English gentleman," whether an intelligent foreigner approves or not, there is not the least doubt that "the nation" will continue very content with them. There is, of course, room for improvement in them, but there will be room for a good deal more should they be so unguarded as to meddle with matters totally outside their sphere. And among such matters is the education of the working-man, the working-woman.

We are bound to say that our own not very small acquaintance with those who are doing the work of Extension leads us to believe that they and their colleagues would be the first to deny the soundness of Professor Jebb's premises, though they might possibly reach the same conclusion—the Public Purse—by a different way. It would be difficult indeed for them to maintain that the democracy is ardently desirous of attending Extension lectures, if by the "democracy" is meant (as in the passage quoted) the wage-earning adult of the lower classes. One significant fact in this connexion is revealed by a mere glance at the syllabuses for the past session; about half of all the courses are delivered in the afternoons. That is *not* a time when the swink't hedger, the toil-worn mechanic, the hard-worked shop-assistant is at liberty to listen to words of wisdom for a solid sixty minutes. It is a time when suburban and provincial young ladies find a short interlude for intellectual refreshment both pleasant

and useful. And there is no reason why they should not have it, and why a body of well-informed and cultivated gentlemen should not supply it.

We have dealt with this matter at some length, partly because we should like to see the ground cleared for a proper discussion of the State-Aid question, and partly because we have always thought that the whole cause (like many another) suffered more at the hands of its friends than its foes. The misguided enthusiasm of ill-informed people who talk of the lecturers as "missionaries," the system as an extension of "University" education, and the classes benefited by it as the "masses," does it infinitely more harm in the eyes of sober and instructed folk than do the gibes of lively journalists who sneer at the whole thing as "penny readings"; for nobody would be likely to be in the least influenced by the latter class, if the former did not manage to cumber the movement with a garment of flatulent cant and fluent fatuity. For our part, we regard the whole work as a successful effort to provide a perfectly legitimate and rational form of intellectual entertainment for a class perfectly well able to pay for it. That is no argument for or against State aid, because the State does subsidize some forms of intelligent recreation and does not subsidize others: we can read the magazines and the journals gratis in most parts of England, but we cannot (as a rule) hear good music without paying for it; the State will help us if we are interested in astronomy, but it will do nothing for us in the matter of philosophy; we may see the Old Masters or the Museums at the public cost, but we have to pay if we care for Impressionists or the Drama. It is not, therefore, our purpose to discuss the abstract right of the Extensionist to public aid, for this would lead us into the consideration of current views on the relation between the individual and the community, and other extremely important and interesting matters quite outside our province. All we have endeavoured to show is that the present claim is based on a total misconception of the nature and conditions of Extension. By all means let us thankfully accept Mr. Jebb's excellent treatise, and every other good work due directly or indirectly to the movement; but, for all that, we must "clear our minds of cant."

The Amateur Educationalist. THE inhabitants of Reading have been a good deal exercised of late years with regard to their interests in the endowments of Christ's Hospital. They think that, under the changed conditions of modern educational facilities, and with the prospect of the speedy removal of the great school from London to Horsham, they might with advantage be allowed to administer locally the charity of John West and Frances his wife. John and Frances wished to benefit the poor children of the town, especially such as are of Founders' kin, and Reading believes it could best carry out their pious desires by managing the trust and applying it to educational institutions in the town. However, the corporation and other influential townsmen recognise that they would have little chance of successfully fighting the combined forces of the Charity Commissioners and the Governors of Christ's Hospital, so they are wisely endeavouring to amend the scheme in some of its details. They are particularly anxious to have a provision inserted for an increase in the future number of Reading scholars corresponding with any increase in the

value of West's endowment, and they ask that the Corporation should be furnished with a copy of the yearly audit, so far as it relates thereto. This is surely very moderate and reasonable. The good Wests left, among other estates, some premises in Fenchurch Street, which have gone up in value from £58 per annum to £850, after the comfortable fashion common with City properties; and it is the duty of the Reading Fathers to see that this increment is applied as the testators meant it to be.

Another portion of the scheme which was discussed was the method by which the Reading presentations to Christ's Hospital should be allotted. A suggestion has been made that they should be thrown open to competition among all boys attending public schools in the town, elementary or otherwise. Suggestions of this sort are of more than local interest; the administration of educational funds is so largely in the hands of those who have no practical acquaintance with educational matters, that any scheme which looks to the uninformed as if it would abolish invidious class distinctions by a set of symmetrical and nicely worded regulations, is tolerably certain of a good deal of support. In London we have found it by no means easy to prevent Dean Colet's benefaction being used to damage his school, and inflict a thoroughly unsuitable education and no slight discomfort on the children of the very class the well-intentioned but misguided reformers intended to assist; at Reading our enthusiasts, in their anxiety to extend the same advantages to rich and poor, devise an ingenious method which would effectually prevent the latter getting any share of West's bounty. If any one supposes that the "elementary" boy would be able to hold his own with his better equipped rival in an examination for an entrance scholarship at Christ's Hospital, let him take his answer from Mr. Pierpoint Barnard, the energetic Headmaster of Reading School:—

"No doubt regulations could be framed under which the son of the poor man would have an equal right to compete as a candidate for these scholarships with the son of the rich man. To be a candidate, however, and to be a successful candidate are not the same thing. What chance would the poor man's son have against the son of a parent who could afford to give him ample preparation to ensure success? In the modern race for scholarships the longest purse wins. This is not merely obvious in theory, but is only what has been taking place in fact during the present century throughout the length and breadth of the land. And as if to oust the poor still more thoroughly, side by side with this has gone on an upward movement in the standard of requirement for such educational prizes. The continual presentation for examination of better and better trained candidates naturally forces upwards the standard of the test; a tendency which it is clearly the interest of the examining schools to encourage, but a tendency which hopelessly eliminates the poor man's son."

These may be unpleasant facts, but facts they certainly are, and it is ridiculous to think that any scheme-making which starts by ignoring them can be profitable. If it be right that West's foundation should be devoted to the poor, the boys who can pay the Reading School fees have *ipso facto* no possible claim to benefit by it.

No doubt the amiable projectors of the scheme would like to see a large number of boys with scholarships from the elementary schools passing thence into Reading School, and so upwards, and possibly it is mainly the dread of such an incursion that has moved Mr. Barnard to speak out, just as it stirred Mr. Walker in a similar case. These persons, however, have failed to realize the conditions of the case. Reading is even a worse field for such an experiment than West Kensington, for while the objections from a purely pedagogic point of view are the same in the one case as the

other, the chances of the two classes assimilating in useful schoolboy intercourse are much less in a small provincial town than in the metropolis. Reading has a large number of boarders, and stands high among those useful institutions which are differentiated from the recognised "great" public schools by not charging such fees as permit only the wealthiest to send their sons to them; its alumni would certainly look down upon the new class as interlopers, and make their school lives, if not a burden, at least a very unpleasant time for them; and not less certainly they would profit by their longer period of "higher" education, and their facilities for getting private tuition, to carry off the scholarships meant for their poorer brothers. But this is the last thing that the framers of the regulations would desire, and the fact that such a scheme should find favour with them lends point to a suggestion recently put forward in these columns touching the advisability of securing the services of salaried specialists in education "to represent public interests and to serve as eye and ear of the authority responsible to Parliament and the country."

Private Schools in the States. A paper read by an American headmaster at the Chicago Congress, deals with a matter that has long agitated English educators. The question of State supervision for private schools stands on the same footing in the United States as in this country, with this difference: here the unendowed schoolmaster, where he does not do merely preparatory work, occupies, as a rule, a somewhat inferior position to that of the public-school master, and is looked upon—often most unjustly—as a purveyor of a humbler and commoner species of instruction; but in the States it is the private-school master who taps the wealthier and more cultured social stratum. "Everywhere (save in New England)," says Mr. J. C. Mackenzie, "our more prosperous citizens have been sending their children, in increasingly large numbers, not to the national schools, but to schools and academies essentially private," and he reckons that these educate some 2,000,000 young Americans, while the public schools claim about 2,500,000.

Touching the law which permits a person to "teach school" without any qualification, the position in both countries is identical. "With the exception of Great Britain," says the writer, "we are the only enlightened nation that commits such folly"—a remark which sufficiently defines his views. "It is passing strange," he observes (with no offensive originality), "that though you will not commit the care of your body to an unlicensed physician, the care of your property to an unlicensed attorney, nor the care of your soul to an unlicensed clergyman, yet you send your son and daughter, not merely for five or six hours a day, but for numbers of years, to a schoolmaster whose best qualifications may be only that he has mastered the art of advertising." It is true we may answer that, if we exercise common prudence, we do nothing of the kind, and that a "licence" by no means prevents a man who has "mastered the art of advertising" from exercising his powers; but we are more concerned with the reform Mr. Mackenzie suggests than with his statements concerning the abuse. His plan resembles in some respects—*mutatis mutandis*—schemes of State supervision which have been proposed at home. "A

commission of six members in each State could be named by two or three leading colleges or Universities. This commission could be legally approved by the Legislature to pass upon (*sic*) the qualifications of all teachers in our private schools, and to examine these schools at stated times, as is the practice in France. Such visitation by college professors and distinguished citizens would be primarily friendly, having in view the welfare of the schools and pupils." We are not sufficiently conversant with the details of the various educational agencies in the State to judge whether this method would be useful to the schools or not; meanwhile we think the consideration of such schemes should not be without interest and instruction to those who are working for a similar end in this country. Its promise of friendly visits from "distinguished citizens" would possibly not commend it to our readers, but we must bear in mind that this, like the language in which it is couched, is American.

But Mr. Mackenzie ought not to damage his cause by such an absurd overstatement as this: "*Supervised education has always and everywhere proved good education.*" The italics are his own, and the sentiment is that of an ignorant bigot. It can fitly be matched by another of his pronouncements: "*Education without such supervision has always proved inferior.*"

NOTES AND SUMMARY.

THE opposition to the Welsh University Charter on behalf of Lampeter has been successful to the extent of securing the support of a majority in the House of Lords. In the House of Commons some objections were raised—receiving a certain measure of Ministerial approbation—against the grant to King's College, London. In the outer world the fight over the voluntary schools in England and intermediate education in Wales rages fiercely. In all these contests the bone of contention is one and the same. The champions of Lampeter, of King's, of the voluntary schools, and the opponents of some parts of the Welsh intermediate schemes, protest that an attempt is being made to make them suffer for religion's sake. The other side retort that their antagonists have no claim to apply public funds, intended for education, to denominational purposes. Each party has a good deal to say for itself, and both are very strong and very determined.

THERE has been a good deal of delay in the appointment of the first occupant of the Chalmer's Chair of English Literature at Aberdeen. The statutes of the Scotch Universities were "in the melting pot" at the time when the bequest was received; and no steps can be taken to select a professor until the Universities Commission has presented the Ordinances for the royal assent. At the earliest this will scarcely be, says Sir George Trevelyan, before March, 1894.

* * *

ANOTHER Scotch University matter of importance awaits the reassembling of the Commissioners for decision. This is the vacancy occasioned in the Principalship of St. Mary's College, St. Andrews, by the lamented death of the Rev. Dr. Cunningham, which took place on the 1st ult. Principal Cunningham, who was also Professor of Systematic Theology at St. Andrews, succeeded Dr. Tulloch in 1886, having previously been minister of Crieff for two score years. It is thought that the Commissioners may recommend the abolition of the St. Mary's Principalship. The vacancy occasioned in the Aberdeen Chair of Divinity by the death of Professor Milligan has been filled by the appointment of the Rev. Dr. Johnston, of Orkney.

MR. J. H. YOXALL, the Secretary of the National Union of Teachers, has addressed the following letter to the chief newspapers on the subject of the South Kensington examinations:—
"Grave dissatisfaction with the regulations and procedure of the Science and Art Department is believed to exist, and the executive of

the National Union of Teachers propose to collect and publish expressions of opinion on the subject, particularly with regard to the results of the recent examinations in science. I should be glad, therefore, if you would enable me to bring this matter under the notice of your readers, and to request that those of them who may possess evidence on the point, or may desire to make suggestions for amendment, should favour me with early communications (whether confidential or for publication), addressed to 71 Russell Square, London, W.C."

In another column we print a somewhat lengthy communication from "A Science Teacher" on this important subject; if he is correct in his statements regarding the working of the new regulations, there is certainly reason enough for the "grave dissatisfaction" referred to above. No doubt Mr. Yoxall will be able to collect a mass of useful evidence on the subject.

A PROPOS of the "burning question" at Westminster, to which reference was made in these columns last month, the *Daily Graphic*, for September 23rd, publishes a page of effective sketches of the old college. Yet beneath these a writer ventures to make the sacrilegious suggestion (due originally, we believe, to the late Dr. Scott) that it would be better to move the school into the country or suburbs rather than allow Queen's Scholars to be day-boys. However the present differences of opinion may be ended, there is little doubt that the reforming party would be as ready to oppose this as the most conservative of "Old Westminsters."

* * *

In connexion with the advantages and disadvantages of day schools, the same writer quotes from a quaint volume of 1640 a few lines illustrative of the ways of home education.

"The education of children under a discrete father is wont to be farre different from that of an indulgent mother; the father's words are daily these, 'to schoole, boy, to schoole,' and when he returns from thence urgeth him againe, saying 'call to mind what hath been read to thee.' . . . But if he answers not directly or shews himself imperfect in his grammar rules . . . presently the father correcteth him with blowes, and scourgeth him with rodde . . . or at such time as he should play, commits him close prisoner to his studie. But the mother, alwaies tender and indulgent when she sees her child with tears in his eyes, reasons thus with her husband: 'Deare heart, why should we thus contristate our children' . . . and with blandishments she doth not only weaken their masculine vigour, but with sweete-meats and licourish morsells provokes them to gluttony and corrupts their wits and dispositions; for one while she secretly conveyeth into their pockets sugar-cakes and simnels, another while comfits and marchpanes; thus by cherishing and cockering she utterly overthrowes them."

We do not "contristate" our offspring or object to the "cherishing and cockering" processes nowadays as much as did our ancestors for whose edification the "Schoole of Patience" was designed, but the method of the "discrete father" is still "wont to be farre different from that of an indulgent mother."

JUSTICES of the Peace perform odd functions at times, but it is not often that they have to conduct an impromptu examination in the subjects of the Whitehall Code. This is what a Devonshire Bench had to do the other day in a rather interesting case. A farmer was summoned for not sending his daughter to "a certified efficient school," and advanced as a defence the plea that the little girl was being satisfactorily taught at a private school conducted by a lady in the village. This lady had declined to have her school inspected by a Government Inspector, and it was clear that the prosecution was really directed against her. The Bench was in a somewhat awkward quandary; the onus of proof lay on the defendant, it is true, but it would never do to use such cases as a means of forcing private schools to accept Government inspection.

* * *

HOWEVER, after a brief deliberation, they settled the matter in a very practical fashion. The infant retired with them into a private room, was asked questions of a presumably appropriate character, and triumphantly vindicated her preceptress's conscientiousness and capacity. But one rather wonders how these sensible magistrates would have acted if they had had before them a child of maturer years than "Beatrice ———, aged seven"; some country J.P.'s may have got a little too rusty in their dates, tables, and principal products, to permit of their conducting a brisk *viva voce* quite as competently as one of H.M.'s Inspectors.

LINCOLN COLLEGE, Oxford, has recently instituted a fellowship of a somewhat novel character. There is no examination, but

candidates are required to submit to the electors any literary work they have done, and undertake during their tenure of the emoluments to spend their time in doing further literary work of the kind. A similar endowment at Owens College (the Berkeley Fellowships) has been successful in allowing those who have benefited by it to devote their time to useful literary research, and has given us valuable work from Dr. C. H. Herford and Dr. Cunliffe. The Quain Studentship at University College, London, has been established too recently to afford an opportunity for generalization; but, since it has given Mr. I. Gollancz leisure for his admirable editing of Old and Middle English texts, it has certainly justified its existence so far.

"Do not pay extravagant school bills or put up with cheap teachers or inferior accommodation, but come to the cheapest and best school in the country." This seductive invitation reaches us from the President of the Central College at Great Bend, Kansas. It is with a sigh of regret that we have to confess our inability to accept it, for at Great Bend, Kas., "a poor but industrious young man or woman" (*vide the Topeka Journal*) can get tuition in the humanities and all the liberal arts (including typewriting) for a dollar per week. If the poor but industrious one boards with the President and avails himself of the privilege of "eating at the same table with several of the teachers," he may cover the whole of his living and learning expenses for about 12s. a week. Washing is possibly excluded, but then "a room is provided with all necessary appliances, and is furnished free to all who wish to do their own laundry work. Many do." We heard recently of a progressive schoolmaster in Lincolnshire who gives each of his pupils a little allotment; but in the matter of laundry work we believe Great Bend, Kas., has still the advantage of the mother country.

THE abolition of the "Preliminary" examinations for the Army having given rise to many inquiries as to the nature of the competitive test in the future, a "coach" furnishes the following explanation:—"The proposed changes in the further examinations, as far as one can understand them, appear to be as follow:—Two subjects, arithmetic and geography, are to be added to the list of obligatory subjects, which up to the present time have been mathematics, Latin, and one modern language. There is to be a qualifying standard in arithmetic and geography, and probably in the three other obligatory subjects. Although not distinctly stated, it would seem probable that there will also be a qualifying standard in geometrical drawing, which is a subject of considerable importance, and therefore ought to receive at least as much attention as other subjects. In referring to the preliminary subjects, I have mentioned that some of these were contained implicitly among the subjects taken up for the further examination. Spelling and writing, although not special subjects of the further examination, have hitherto so far been taken into account that marks have been assigned to them in each paper. Geography has been an optional subject. It has also been intimated that those candidates who have already passed the preliminary will not be obliged to make qualifying marks in arithmetic and geography; but that any marks made by them in these subjects will be taken into account. Alterations based on these lines will, it is announced, be introduced at the June examination of 1894."

THE *Educational News*, which is the official organ of the Educational Institute of Scotland, pays us a very sincere if not very handsome compliment, in its issue of September 9th, by quoting something over five columns from our September number. It is extremely satisfactory for us to know that we are so highly appreciated by an expert whom we have always regarded as a very able editor and writer; at the same time, we feel just a little embarrassed by his admiration when it takes the form of deriving about a third of the whole of the literary matter in his paper from our journal of the previous week. We have no particular objection to his annexing nearly two columns of a contributed article, though we should not ourselves feel justified in reproducing for our readers original matter taken from a current educational periodical published and circulating in the United Kingdom; and our chief feeling was amusement when we found that our friendly rival had calmly "lifted" a couple of columns dealing with a recently published book. This was undoubtedly very indolent of him, but then it was holiday time. We should therefore have said nothing about it this time if he had not "conveyed" (as Pistol has it) another contribution without any

acknowledgment of the fact that it was written for the *Educational Times*. The article by the Rev. Wm. Burnet of Lille, on "Rewards and Punishments in French Schools," has been quoted in part or in whole by various newspapers, but we are not aware that any journal except the *Educational News* has allowed it to be taken for an original contribution to its own columns. No doubt our contemporary, in the apology which it will of course make when its attention is called to these facts, will be able to explain that the omission was merely due to carelessness, and to assure us that such a reckless use of the scissors will not be permitted again.

It is stated that the Royal Commissioners on University Education in London will have one more meeting—probably at the end of this month—before drawing up a report.

A WRITER in a popular weekly paper gives an account of various devices which dishonest candidates are supposed to employ to trick examiners. Here is an anecdote illustrating the evasion of the eyesight test for Army candidates:—"The story is told that, on one occasion, a man had been made acquainted with the favorite test almost invariably applied by the officer presiding over the examining board. He accordingly devised a plan by which his weak sight might not be discovered. Everything went well until the examiner asked a question about the candidate's power of sight. The latter modestly claimed that he could see about as well as most people. 'Well, well, Mr. A.,' blandly remarked the president, 'will you kindly look out of that window and tell me what is the farthest object that you can observe?' Mr. A. walked to the window and gazed out over the sea. 'There's a man in a small boat that I can just distinguish, sir,' he said. 'I daresay you are right,' answered the officer, 'but, at this distance, I can hardly say with certainty what that speck really is.' Taking up a glass, he gazed for a moment, then admitted that the candidate was quite right. 'And the boatman is waving a flag,' volunteered Mr. A. 'Bless my soul!' cried the examiner, taking another look through the glass. 'My dear sir, your sight is really phenomenal. We shall certainly be able to pass you.' By this means the weak-sighted candidate obtained his 'pass' at no further expense than a sovereign to the boatman who had so faithfully carried out his instructions."

WE are informed that a number of past students of the University College Hall of Residence, Bangor, have presented Miss F. E. Hughes, the late Lady Principal, with a handsome dressing-bag, as a slight testimony to the sympathy they have felt for her during the anxiety and trouble she has lately undergone in connexion with the Hall. The bag has the following inscription: "Presented to Miss Frances Emily Hughes, as a token of affection and respect, by the past students of the University College Hall, Bangor, September, 1893." The building formerly used as the Hall of Residence has been let to a boarding school for girls.

THE American professor is popularly supposed to occupy an elevated position in society: a writer in the *Forum* tells us that he is uncommonly badly paid. The wages of blacksmiths, masons, puddlers, brake-men, ticket-collectors, "despatchers," and various other not very highly skilled workmen range with those of the occupants of a college chair in the States; the average of the professor's income in one hundred and twenty-four institutions works out at under £300, leaving out of consideration the "most highly paid," whose average is about £400, and "presidents," who get £600 a year all round. Accepting these figures, and remembering the cost of living in the States, we are probably not far wrong in agreeing with the writer that even the German Professor is about twice as well off. Some of our Extension lecturers who have been tempted out by somewhat larger fixed salaries than they got in England, have discovered with pain that a little increase in money does not balance a large one in prices. But they are very strong on the superior status they enjoy.—*St. James's Gazette*.

THE lists of the successful candidates in the examination recently conducted by the Joint Oxford and Cambridge Syndicate, show that the total number of candidates for Higher certificates was 1,683. Of these, 252 girls were candidates for letters only. The number of Higher certificates awarded was 928, and 190 letters were given to girls. Last year there were 1,583 candidates (with 197 girls for letters only), and 823 certificates were awarded and 173 letters given. Respecting the examination held last July, there were 1,274 candidates offering Latin, and 839 passed, 39 of them with distinction. In Greek there were 1,025 candidates, and 735 passed, 51 with distinction. Of 1,001 offering French, 768 passed, 78 with distinction. Of 253 offering German, 186 passed, 37 with distinction. The one candidate offering Italian was successful. In elementary mathematics, 1,486 candidates presented themselves, and 1,186 satisfied the examiners. In additional mathematics there were 607 candidates, of whom 423 passed, 95 with distinction. Of 1,214 who sub-

mitted themselves in Scripture knowledge, 853 were successful, 39 gaining distinction. Of 416 offering English, 334 passed, and 73 gained the mark of honour. There were 1,012 examined in history, and 626 passed, 38 with distinction. Eight out of 10 were successful in the composite subject, 2 gaining honours. For Lower certificates there was a total entry of 838, including those who were unable to go through the examination, and the number of certificates awarded was 406. There were only 26 candidates for Commercial certificates, and 10 were successful, of whom 7 came from Bradford Grammar School.

THE recently published Cambridge Calendar contains the usual statistics of the membership of the University, the number of undergraduates in the past academical year reaching a total of over 2,900. The distribution of these among the colleges is shown in the following table:—

College.	Members of the Senate.	Graduates under standing of M.A.	Under-graduates.	Total.
Trinity	2,201	866	614	3,681
St. John's	1,045	355	247	1,647
Gonville and Caius...	416	238	172	826
Christ's.....	349	185	139	673
Emmanuel	345	154	161	660
Trinity Hall	209	192	218	619
Pembroke	234	200	151	585
Clare.....	233	132	175	540
Jesus.....	213	139	176	528
King's	255	141	104	500
Corpus Christi.....	263	101	100	464
Queens'	152	122	88	362
Peterhouse	197	73	69	339
Downing	101	81	86	268
Sidney Sussex	118	65	58	241
Magdalene	126	42	62	230
St. Catharine	111	36	59	206
Selwyn Hostel.....	24	121	101	246
Ayerst's Hostel	6	19	25	50
Non-collegiate.....	11	92	107	210
Members of the Senate not on the boards of any college	243	—	—	243
	6,852	3,351	2,919	13,118

THE City of London School Committee, to whom it had been referred to consider whether some steps should not be taken, by raising the fee or otherwise, to render the school more nearly self-supporting without lowering the character of the education afforded, have made a report to the Court of Common Council on the subject, which has been printed. The charges, the report states, for the general maintenance and administration of the school are considerable; these charges include such items as rates and taxes, coals, gas, repairs, wages of porters, apparatus, examinations, secretary's salary, stationery, printing, and postage. After a careful examination the committee were unable to find any means by which they could be appreciably reduced, but they should continue to give every attention to that important point. They could not recommend any diminution in the salaries of the masters, nor did they find on comparison with others that the school was overmastered. They felt that any increase of fees would lead to a diminution in the number of boys, and they strongly recommended the Court of Common Council not to incur that risk. It seemed to them, after all, that the point to be considered was whether the school was carrying on its work in such a way as to compare favourably with similar institutions which were crowding around and competing with it for the best and highest form of education for the young. The committee were of opinion that this was being done with marked success, and they believed that any reduction in the cost of carrying on the school, or any increase of the fees charged, would materially interfere with the high standard of work, which had reflected already, and continued to reflect, so much credit upon the Corporation of the City of London.

THE following is a summary of an interesting speech delivered at Wallsend by Dr. Garnett, Organizing Secretary for Technical Education to the London County Council. He contended that the advancement of the working classes did not lie in the increasing of wage, if at the same time the value of money was proportionally reduced. What ought to be done was to so improve the man that his capacity to take pleasure in the everyday details of life was enlarged. To do that he must be educated to labour for labour's sake, and when such a point had been attained, results would be produced worthy of the British workman. He would have the girls thoroughly taught the rules of domestic economy. For this there should be teachers capable of adapting themselves to the circumstances and requirements of their pupils, and to acquire such versatility the teachers themselves must be carefully trained. He would also have what might be termed itinerant teachers, who would

undertake the responsibility of giving instruction under whatsoever society or union should require their services. The speaker then proceeded to detail a scheme by which the promising poor class children in the elementary schools might obtain scholarships which would secure them technical education for a certain period, find them in books, and at the same time pay the parents, who might be in need of pecuniary assistance, a sum similar to that which the boy or girl would earn if sent into the world in the usual way. All this was not with a view to placing those to whom such advantages had been given in a position above their sphere. It was to teach them the value of labour, its capabilities, and its dignity. With that object the London County Council had gone so far as to offer sixpence per hour for every hour studied by any boy or girl who cared to take up a subject in these institutions, and that amount was to go towards their further education and the education of the people generally.

THE ASSOCIATION OF WOMEN PIONEER LECTURERS, which was established at the opening of the year for the purpose of providing lectures in centres not yet touched by University Extension or similar teaching, has removed its headquarters to more commodious offices, at No. 4 Caroline Place, Mecklenburgh Square. Eighty-seven lectures were given between February and July, representing a total attendance of 1,379 persons. It is significant of the vitality of the movement (says the *Daily News*) that Miss Edith Bradley, the secretary, is able to state that the lectures given in the form of "instructive rambles" during the summer, at the British and Natural History Museums, on Egypt, Assyria, and Chaldea, and on the animals, were originally started for children during the holidays, but they have been so much appreciated by grown-up people that it is hoped to make them continuous, taking a different group of subjects for each set.

UNIVERSITY COLLEGE, DUNDEE.—The new Calendar contains among other matter a reprint of Principal Peterson's annual report. In referring to the number of students enrolled, he points out that, while two sessions ago the number amounted to 204, and in the succeeding session to 242 students, last session there were only 203 individual students attending the regular classes. "Such fluctuations," he remarks, "may be expected to continue until the College is in a position to complete the curriculum of study under the new ordinances, unhampered by any unnecessary restrictions in regard to courses qualifying for degrees."

DR. ALEXANDER BUTTMANN, son of the famous Greek scholar and grammarian, Ph. K. Buttmann, has just died at Potsdam, at the age of eighty-one. He held a professorship at the Gymnasium of that place, and the new editions of his father's grammatical works were published under his supervision. Dr. Buttmann was himself the author of a "*Grammatik des neutestamentlichen Sprachgebrauchs*," which was translated into English in 1874.—*Athenæum*.

THE CAMBRIDGE TRAINING COLLEGE.—Thirteen students from this College passed the recent theoretical and practical examination for teachers, held by the Cambridge Syndicate. Of four distinctions in the theoretical part, two were gained by students of the College, which is also credited with seven of the twenty distinctions in the practical part.

It is proposed to perpetuate the memory of the late Professor J. M. Fuller, by the erection of memorials in both the churches in Bexley of which he was vicar. Friends who wish to contribute to the fund being raised for this purpose should send subscriptions to the secretary to the Memorial Committee, Mr. E. R. Sharpe, Hurst Lodge, Gravel Hill, Bexley Heath.

MR. J. S. TUORNTON, Hon. Sec. of the Sloyd Association, writes to us:—"Our central training classes will be held this coming season at the Wesleyan Training College, Horseferry Road, S.W. (five minutes from St. James' Park Station, and ten from Victoria). The secretary of the classes is Mr. F. Earnshaw, 31 Whitbread Road, Brockley, S.E., of whom all particulars may be obtained. The first meeting is fixed for Oct. 2nd. We are hoping to have a second class a few weeks later at the North-Eastern Institute, Hackney."

MR. H. W. SEGAR, B.A., of Trinity College, Cambridge, has been appointed assistant lecturer in mathematics at University College, Aberystwyth. Mr. Segar was Second Wrangler in 1890, and Smith's Prizeman last year.

MR. JAMES WILLIAMSON, B.A. (Cantab.), late Mathematical and Applied Science Master at King's Lynn Grammar School, has been appointed headmaster of Borden School, Sittingbourne, in the place of Rev. W. H. Bond, M.A., resigned.

PHYSICS TEACHING IN SCHOOLS.*

By W. B. CROFT, M.A., Winchester College.

In considering scientific education for boys it is too often forgotten that provision should be made for students with various aims and opportunities.

Take first those who intend to be scientific or technical experts: some must take the shortest path to a livelihood; while others have the time and means to profit by a more general and extended education, and this admits of several degrees, involving sometimes the benefits of a University or of work in a foreign laboratory.

Then there are minds of the best capacity that would never be patient or satisfied with classical criticism, but grow keen and earnest in observation and experiment, and wisely adopt science for pure education and mental growth, apart from the view of a professional use of the knowledge. This should be remembered when it is asked whether more scientists are being trained than the world has work for: they are accurately trained for many general pursuits, just as valuable men of business often owe their definiteness and precision to the exactness impressed upon them in the mastery of Latin and Greek details.

Next come the large majority who are in our schools of general education, preparing for the Church, Army, medicine, or other such callings. I wish specially to press for the recognition of this class and of the importance, for the welfare and intelligence of our country, that science should be a necessary part of their training.

Teachers will find that the plan of work they had better attempt will vary with the conditions of the school: allow me to describe briefly my own case.

Soon after the report of the Duke of Devonshire's Commission twenty years back, a small committee of the Royal Society met to give practical counsel to public schools. The representative of the Royal Society on our Winchester school body, Professor Price, now Master of Pembroke, handed to me the results of their conferences, and we have been able to work ever since by developing their suggestions. They received help from a well-known member of our association, Mr. H. G. Madan, late of Eton College, especially with regard to the ages at which boys profit by various subjects. My experience impresses me with Mr. Madan's sagacity on this point, and I venture to think it worthy of special note.

Our school is ruled by an Act of the Privy Council, by which, with a few exceptions, science is compulsory for all. In due proportion it must be reckoned for deciding promotion from form to form. Each form attends two hours weekly and has extra work, usually in the shape of numerical examples. The various forms have names as peculiar as the unofficial language of the school, so I will represent matters by an equivalent.

If a boy were to pass up the school, as he might do, between the ages of twelve and nineteen, he would learn: first year, geometrical drawing, botany, physical geography; second year, simple mechanics, graphics, heat, hydrostatics; third year, chemistry; fourth year, chemistry; fifth year, geology; sixth year, electricity; seventh year, acoustics, geometrical and physical optics.

We are, at present, concerned with physics, but one must briefly note how one subject is balanced with another. It was definitely advised that biology should not have a place in our scheme; and we find that boys' pursuits in this direction are aided in the best way by a Natural History Society, which is guided by several masters. It is good that boys of all ages throughout the school should be drawn into this Society, while, if these interests were treated in a more official way, it would probably be necessary to restrict the study to a special part of a boy's career.

In the lower classes, much mental training is derived from numerical problems, in addition to the awakening by experiment of the power of observation. In the sixth and seventh years' teaching in physics my aim is partly different: boys who survive to this stage are of more than average power, and, being well provided with mental exercise in other ways, have no need for the discipline of lengthy physical measurements, nor would the majority find them interesting; but they have the capacity and interest to assimilate the ideas of modern science, and to have their imaginations roused by hearing of its progress; and there is none amongst us here who doubts the importance that such knowledge should form a part of every educated mind. Therefore, it

* Read before the British Association at Nottingham.

has been my endeavour to give a wide experimental demonstration of the leading phenomena, and, as far as means allow, to keep pace with recent progress. I am alive to the objection that often the student listens and observes instead of working for himself; but, in the midst of the vast benefits gained by students in these days through exact quantitative work, one must also remember the widespread effects of the lecturing system, under the famous succession of teachers at the Royal Institution.

Moreover, this plan is adapted to those who may hope to be advanced mathematical physicists, for at this age they are rightly much occupied with mathematics, and at a later age in the specific work of a laboratory, they have often have not a chance of a broad experimental survey of physics. At most public schools there are lessons in drawing, carpentering, and photography, and these are probably the best practical work during boyhood. Of course it is intended that they shall use both the physical lecture room and laboratory as much as possible for handling the instruments and personal observation of the phenomena, but there had better not be that sacrifice of time which is needed for measurement; to this idea there are obviously a few exceptions, as, for instance, the principle of Wheatstone's Bridge must be illustrated with numerical working.

Our system does not exactly provide for those minds which require an education exclusively scientific, but, with rules fairly liberal and elastic, we always have some for whom such a course is arranged in a modified degree.

In a review last month, Professor Mahaffy revived the old exclusive claims of classics; in the present company it is needless to consider the matter in its general bearing, but there might be some sympathy with his idea of the futility of any work to which so little time is given. For myself, I do not feel it; these short lessons of science in boyhood are seeds which often bear little for a while, but seldom fail to bring forth pleasant fruit in later years. For several reasons I am disposed to make the thorough study of physics a task for manhood, but few will venture upon it unless they have been initiated as boys.

Mr. Grant Allen, an advocate on our side, has been remarking severely on the mediæval teaching of my own and other schools; I have merely to say that the course of science that he appears to wish for has been in operation with us for at least fifteen years.

Our physical department consists of a lecture room and laboratory, each about thirty feet square. Sunlight can be sent through these as well as to a smaller dark room. There are, besides, a photographic dark room and a north room about fifteen feet square. The chemical rooms are somewhat similar.

I attach the highest importance to having abundant glass cases. The instruments should be set out in ample space, with brief descriptions of their author, date, and use, according to the best methods, which may be learnt from the various collections at South Kensington. There should be a meridian line on the floor, and the latitude, longitude, and height above the sea should be indicated. It is easy to collect from scientific journals pictures of special interest to hang upon the walls. I have been fortunate in finding portraits of most of those whose names are familiar in physics.

In conclusion, a system for physical teaching has been described, but it is not to be regarded as in opposition to other modes; several should be allowed as the best, each in its own conditions. Especially I venture to plead that those interested in education shall help physicists to have good general education during boyhood, and all others to have good science education. The whole contention is no more than common-sense and experience teach, that the best usually comes from a temperate harmonising of things that may be different but are not in antagonism.

THE GROWTH OF THE UNIVERSITIES.

PROFESSOR JEBB'S valuable discourse on "The Work of the Universities for the Nation" (Cambridge Press) compresses into a marvellously small space an extremely interesting historic sketch of the rise and expansion of Oxford and Cambridge.

THE BEGINNINGS.

He starts with a rapid survey of the origin of Universities in Europe, which he assigns to "a spontaneous and enthusiastic desire for knowledge."

"During the dark ages, from the fall of the Western Empire to the eleventh century, such education as existed was given in the schools

attached to monasteries and cathedrals. Though some outlines of pagan literature were preserved, the subjects taught were mainly such as formed a direct preparation for the calling of the priest or the monk. Towards the end of this period, new studies began to press for recognition, partly through the stimulus given to Europe by contact with the more civilized East, a result to which the Crusades contributed. The practical studies of medicine and of law became more extended. The rudiments of physical science, and some branches of mathematics, came more clearly into view. At the beginning of the twelfth century, the study of dialectic, based on parts [of the Aristotelian logic, received a notable impulse. Its claim rested not only on its intrinsic value as a mental discipline, but upon its assumed relation to theology. A belief was diffused, which some famous controversies of the time had strengthened, that spiritual truth could not be rightly apprehended except through certain forms of reasoning. This conception was the basis of what was afterwards known as the scholastic philosophy."

THE CHILDHOOD OF THE ENGLISH UNIVERSITIES.

The interest taken in these new subjects, and the inability of the religious schools to provide all the requisite instruction, gave rise to new associations or corporations. The *Universitas* is at first the name of a guild consisting of learners and teachers. A guild would often specially devote itself to one subject, and students of that subject would flock to it from all parts—thus at Paris we find the great school of theology, at Bologna that of law.

"Paris was the model upon which the English Universities were founded. Before the end of the twelfth century, Giraldus Cambrensis could describe Oxford as the place 'where the clergy in England chiefly flourished, and excelled in clerical lore.' The earliest history of our own University is more obscure; but it, too, probably had its origin in the twelfth century, in connexion with teaching carried on by the canons of the church of St. Giles; and in 1269 we hear of some students migrating from Oxford to Cambridge. But it is not until we come to the era of the earliest Cambridge colleges that there is any full or clear light. Throughout the middle ages, Oxford was the representative University of England; and not only that, but at one time the rival, and in some respects the superior, of Paris."

THE UNIVERSITIES REALLY NATIONAL.

Professor Jebb considers that the middle of the fourteenth century was the end of the first period of vigorous work which touched the national life. This period includes "the golden age" of Oxford schoolmen—Roger Bacon, Duns Scotus, Occam, and many others.

"At this time the English Universities represented the best intellect and the highest knowledge that existed in the country. All men who cared for mental cultivation at all looked to them as the centres of education. Their attractive power was the more widely felt because the Church then offered the most varied avenues to advancement in life; indeed, there was no other road to it, except a military career. Many of us, perhaps, when we look back upon the mediæval University, might be apt to think that after all it had little but the name in common with the University of to-day. In one sense, of course, this is true. An impassable gulf divides them in respect to material surroundings, to aims and methods of study, to the whole fabric of government and society. But, if we revert to the idea in which Universities had their origin, we find that the English University of the thirteenth century fulfilled the essence of it; it possessed the highest culture of the age; and it was recognised by the nation as the exponent of that culture."

THE COLLEGES.

Then follows a time of reaction and decay, which lasted until the quickening influence of Greece and Italy began to affect us again, about the beginning of the sixteenth century. That interval, however, is marked by the rise of one of the chief characteristics of Oxford and Cambridge—the colleges. These were only just beginning to exist about 1300, and none had gained their power and influence and numbers before 1500.

"The general intention of the earliest colleges was that they should be boarding-houses, with a discipline so organized that the inmates should lead a studious and decorous life—special provision being made for those who required pecuniary aid. Many colleges were designed more especially for the secular clergy, as the monastic and mendicant orders were already so amply endowed. We must remember that the multitude of students at a mediæval University was a fluctuating and often turbulent mass. The great value of the collegiate system, when it first came in, lay not so much in the pecuniary assistance which it gave as in the security which it afforded for discipline and good order. It was an element of permanence and cohesion for the whole academic body. The teaching function, it may be added, did not belong to the original idea of a college, except in so far as the older residents might be expected to aid or guide the studies of the younger; a college teaching staff was a later development, due to the altered status of the University schools."

THE REVIVAL OF LEARNING.

Naturally, the holder of the Greek chair at Cambridge does not forget to attach due importance to the pioneers of Hellenism in England:—

"The restored classical learning was planted in England by the enterprise and zeal of a few individuals, such as that series of hellenists whom Oxford can show at the close of the fifteenth century—Selling, Lilly, Grocyn, Latimer, Linacre; such as Cambridge, again, produced in the immediately subsequent period—Richard Croke, Thomas Smith, and that able scholar, whom Ascham and Milton commemorate, Sir John Cheke. The colleges sheltered most of those who brought the new learning into England. These foundations afforded opportunities for private study—and it must be recollected that the new learning, Greek especially, carried the suspicion of heresy; they also facilitated foreign travel, which was then almost indispensable for the purpose."

Nevertheless, it is to the classics that Professor Jebb imputes a widening of the gulf between the Universities and the people:—

"The classics, though the circle of those interested in them became continually larger, could not exercise such a widespread or popular influence as once belonged to the old mediæval studies. The strongholds of humanism, again, the colleges—as their permanent character, their wealth, and the ability of their administrators gradually made them predominant—represented an aristocratic or at least oligarchic agency, engrafted upon the once democratic existence of the mediæval University. Thus, in the second half of the fifteenth century, internal causes were tending to detach the Universities from the general life of the nation, while at the same time the number of other interests and careers was expanding."

THE DARKEST HOUR.

The eighteenth century has always been looked upon, by those qualified to judge, as the unworthiest period in University annals—*vide* Gibbon, among others. Professor Jebb, without attempting its defence, advances some considerations well worth attention. Then, passing on to the early part of this century, he notes the beginning of reform.

"During the first third of this century, steps were taken at both the Universities to improve the quality and enlarge the scope of their work; and if these steps did not go very far, at least they were laudable in their way. Meanwhile the voice of censure, which had been almost silent in the eighteenth century, became more importunate. Its tone was such as we find in these words of Dugald Stewart, which were pointed at the English Universities:—'The academical establishments of some parts of Europe,' he said, 'are not without their use to the historian of the human mind. Immovably moored to the same station by the strength of their cables and the weight of their anchors, they enable him to measure the rapidity of the current by which the rest of mankind is borne along.'"

THE REFORMS.

When things are at the worst, they generally get themselves mended. Without following Professor Jebb in detail in his treatment of their recent work and their future, we may notice what he says of the result of the reforms since the middle of this century:—

"The range of studies has been immensely enlarged; and though much remains to be done, it may be said of both Universities that at no previous time have they been the seats of intellectual work at once so highly organized and so varied. Within the last twenty-five years, too, their doors have been opened to whole classes of the community against which they were once closed."

THE INTELLIGENT FOREIGNER.

A very interesting picture of the Universities, drawn by Professor Huber, of Marburg, was presented to the public in 1839. Professor Jebb refers to this in the following words:—

"He says, in effect: 'The end for which the English Universities have long existed has not been to form learned men, or able professional men, or State officials, as our German Universities do; it has been to produce that first and most distinctive flower of English national life, an English gentleman—a product to which we on the Continent have nothing really similar; the nearest approach to it is a Castilian *caballero*.' No doubt there were many people in England—men inspired with a lofty idea of what a University ought to be—who, when they read those words of the German historian, felt in them a severe, though unconscious, irony."

Perhaps some of these "many people" may have been cheered up subsequently by reflecting that Gladstone, Newman, Manning, Tennyson, Pusey, Keble, &c., &c., survived the degrading influences of a University not meant (*teste* Huber) "to form learned men, or able professional men, or State officials, as our German Universities do."

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“The parents stand undefended, and suffer grievous things in the way of counsel and reproach. It must surprise some of them occasionally to be warned so often against undue severity. It must amaze them to hear that their lazy little boys and girls are suffering from overwork, and in danger of mental exhaustion. It must amuse them—if they have any sense of humour—to be told in the columns of a weekly paper ‘How to Reprove a Child,’ just as they are told ‘How to make an Apple Pudding,’ and ‘How to Remove Grease Spots from Clothing.’ As for the discipline of the nursery, that has become a matter of supreme importance to all whom it does not concern, and the suggestions offered, the methods urged, are so varied and conflicting that the modern mother can be sure of one thing only—all that she does is wrong.”

“DON’T.”

Most of us remember moral stories in the reading-books of our infancy which inculcated the beauty of implicit obedience in the young by showing how naughty little Tommy came to grief by not heeding kind Mama’s “You are not to,” while the virtuous Billy prospered by a precisely opposite line of conduct. We have changed all that now, and the story-book of the future will apparently show us how Mama was punished for telling Tommy or Billy to do something he didn’t want to do.

“All modern writers upon children unite in denouncing the word ‘don’t,’ as implying upon every occasion a censure which is often unmerited. But this protest reminds me of the little girl who, being told by her father she must not say ‘I won’t,’ innocently inquired: ‘But, papa, what am I to say when I mean “I won’t”?’ In the same spirit of uncertainty I would like to know what I am to say when I mean ‘don’t.’ Aurette Roys Aldrich, who has written a book on ‘Children—Their Models and Critics,’ in which she is rather severe upon adults, tells us a harrowing tale of a mother and a five-year-old boy, who sat near her one day on a railway train. The child thrust his head out of the window, whereupon the mother said tersely: ‘Johnnie, stop putting your head out of the window!’ That was all. No word of explanation or entreaty softened this ruthless command. Whether Johnnie obeyed or not is unrevealed, being a matter of no importance, but, ‘as they left the car,’ comments the author, ‘they left also an aching in my heart. I longed to clasp the mother in my arms, for she, too, had been the victim of misunderstanding, and show her, before it was too late, how she was missing the pure gold of life for herself and her little boy.’ Happily, before long, another mother entered, and her child also put his head as far as he could out of that troublesome window, which nobody seemed to have the sense to shut. Observing this, his wise parent sat down by his side, ‘made some pleasant remark about the outlook,’ and then gradually and persuasively revealed to him his danger, discussing the matter with ‘much candor and interest,’ until he was finally won over to her point of view, and consented of his own free will, and as a rational human being, to draw in his little head.”

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'Here comes a candle to light you to bed,

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BITTER complaints are arising, from Departmental teachers, of the results of the recent "May Examinations" in Science and Art, throughout the country. The alterations in the conditions of payment, which take effect this year, have shorn many an organized science school of an unexpectedly large proportion of its income, and the instructors cry aloud. And we hear that "the National Union of Teachers is girding up its loins."

IN THE PAST.

The fact of the National Union of *Elementary* Teachers taking up this question is a singularly significant one. It shows very clearly the nature of the revolution which the Department of Science and Art has attempted. As I may remind the reader, the Department has hitherto paid, and does still pay, entirely upon examination results. Up to last year the examinations were in three stages, the successful candidates in each being divided into two classes. The stages are entitled "Elementary," "Advanced" and "Honours," respectively, and it was apparently assumed that the first two of these would constitute successive sections in the organized science schools which were to be created by Government payments. Now the experience of many years has shown that in a considerable number of localities, mainly it would appear through the low qualification of those who were accepted as teachers by the Department, classes have been conducted and grants earned only in the elementary stage. Moreover, it is the second class of the elementary stage which has been the staple product, the "bread and cheese" of too many schools of science and art.

In other words, the old organization of this local teaching has been recognised at last as unduly stimulating to the teaching of a mere smattering of science, and as offering insufficient encouragement to teachers to prosecute their own and their pupils' studies beyond the initial stage. It was certainly not anticipated at the commencement that the teaching of science and art in the smaller, and even in some of the larger towns, would fall so completely as it has done into the hands of elementary teachers and teachers in secondary schools not very far above the elementary level. A remarkably high proportion of such teachers were without any efficient training in practical science, and their procedure notoriously resolved itself into a methodical but uninspiring cramming of some one of the remarkable series of text-books the system has called into being. Probably if one had unexpectedly visited a dozen of these evening schools last April twelvemonth, in eleven of them the teacher would have been discovered laboriously drilling his class through "A's Model Answers," or the test questions at the end of "B's Elementary —ology." The blackboard would be immaculate, and the "minimum apparatus considered by the Department to be essential to the proper earning of a grant" rusting in the cupboard, or beneath the dust on some remote shelf. However, this was the kind of thing the Department had called into being, and fostered in spite of criticisms for many years, and for this kind of thing the Department, one might anticipate, would entertain a parental responsibility and regard.

THE NEW REGULATIONS AT WORK.

But last year, without any warning, the authorities at South Kensington altered the conditions of payment. The alteration was redolent of the autocratic official. The "bread-and-cheese" item—the pound for a second-class elementary—was not merely reduced, but abruptly abolished. What had hitherto been styled the first-class elementary was made into the elementary pass, and earned the same payment as heretofore. *A fine was instituted for failures to obtain a certain minimum of marks.* The payments upon advanced and honours passes, however, were very considerably augmented. But this was poor consolation to teachers only accustomed to, and only capable of, rushing a half-taught crowd at an elementary examination, and finding their sufficient reward in survivals. It is not too much to say that the alteration was the financial death sentence of scores of provincial science classes. No wonder the "N.U.T." is "girding up its loins."

To any one not financially interested in second-class passes, and acquainted with the conditions of sound scientific instruction, the new regulations will be clearly a welcome improvement upon the old, so far as instruction in science goes. It is, however, open to question how far the South Kensington authorities are justified in so suddenly abandoning their offspring, the grant-earners. There is something not only arbitrary—which is, indeed, only a parental characteristic—but also ruthless and unnatural in this abandonment. Moreover, objection may be taken to it on an altogether different ground.

Until two years ago the serious consideration against the acquisition of the minimum of elementary science was the absence of any sequential study. The elementary teacher, qualified by an advanced certificate, took his pupils as far as his ability went, and left them there, after which they forgot again "with promptitude and despatch." But the dissemination of technical education has given a thin soil of elementary science a real value it has hitherto not possessed.

Local authorities are now dispensing large sums of money, sometimes under the advice of individual members of a new class of men called Technical Education Experts which has mysteriously come into being, and sometimes under the dictates of what is locally understood to be common sense. Attention has already been called in the *Educational Times* to the variegated enterprises this experiment has inaugurated. Here we are concerned simply with the general prevalence of an indisposition on the part of these authorities to countenance any purely scientific teaching. They have thrust upon them the responsibility of teaching something technical—something "practical." "Clearly," say most of them, "elementary science"—without which technical instruction must be mere rule of thumb work—"is not in the Bill." It is just as if we had commissioned a local committee, say a clergyman, a lawyer, one or two farmers, a stockbroker, and a retired officer, to build us a house. "Let us begin with the walls," they say. Someone mildly

suggests digging a foundation. "Dig!" they exclaim; "Nonsense! It is a house we have orders to make here, not a hole. Who ever lived in a hole?"

It is at this juncture that the Science and Art Department, which has for years been stimulating the construction of foundations upon which nothing was built, alters its tactics. Just when an elementary knowledge of science becomes at last necessary to prevent all these technical enterprises ending in failure, just when such foundations are needed, the encouragement formerly afforded with such liberality to the beginnings of knowledge is withdrawn. A patriotic person of the intenser type might find something very agreeable and "thoroughly English" in this condition of affairs, but from any other point of view it can only be regarded as an absolutely deplorable muddle. Just as the higher steps are being supplied, the bottom rung of the ladder is cut away.

THE PROBABLE FUTURE.

It appears that some of the teachers are inclined to clamour for a renewed recognition, on the part of the Science and Art Department, of its responsibility in the matter of very elementary teaching. They do not want the second class passes again; they want inspectors for the elementary stage of the teaching, and payments upon attendance, subject to their reports. With a reservation one may agree with them. Certainly along their line the change will probably go.

If the inspector is simply to be only a more glorious member of the grant-earning fraternity, a selected and representative specimen of their own class, the examiner at South Kensington would be better. If, however, he is to be an individual of a distinctly higher culture and wider experience, and yet a man capable of sympathising with the teacher's conditions, he will be a distinct advance on the mysterious unknowns who at present mark the papers. Yet still an imaginative person may conceive an inspector, here and there, and now and then, venial to an awestricken attitude, offended by disrespectful suits or neckties, or propitiated by cups of tea.

In all human affairs, however, we must weigh one disadvantage with another. "Excellent" is pretty on school reports, but the best mark we can hope for in the real world is "A little better."

The present difficulty is certainly urgent. It is borrowing the healthy lungs of the National Union of (Elementary) Teachers, and it is crying aloud for attention. A decisive step in some direction cannot be long delayed.

S. W.

THE TEACHING OF GEOGRAPHY.

PERHAPS no school subject has been written about so variously as geography, for the sufficient reason that no subject is capable of a more variegated treatment. Were it not for the examiner, who holds us all in a team together, at least as concerns certain cardinal points, it is open for one to imagine that geography would go altogether to pieces, by its own inherent tendency to differentiate, and there would be no longer one geography any more, but many. Geography, it has even been asserted, is of the nature of a gas, and takes its form altogether from the pedagogic vessel in which it is contained; for to the physicist it brings up a vision of isothermals, volcanoes, and the scour of tides; to the biologist, a struggle of this flora and fauna with that; to the historian, the growth of strong places at strategic points and rich cities on the water-ways; to the politician, an arithmetical problem of the balance of military power and productive activity; and to the philosopher, all these things and more. And one, in writing at one's ease on the subject, or in vacation plans, when the Lydian stone of practice has been left at home, is apt to follow these divergent suggestions too unreservedly, and to engender at last an ideal teaching of geography, beautiful indeed on paper, but requiring at its beginning the rare quality of omniscience in the teacher, and clearly aiming straight at omniscience in the pupil as its end.

School geography, or the geography of those that examine schools, is, however, an altogether different thing from the geography of pedagogic literature, and for a change it may not be uninteresting to consider this neglected branch a little, taking as our keynote for once low practice instead of high ideals.

Practically—this is written, without comment, as a matter of fact—school geography resolves itself into a knowledge of locality, the science of "Where is A?" This may be contradicted in the books teachers write for one another, but even among those who profess higher things on paper there may be found some who are worse—after the fashion of this world—than their words. This treatment of geography has at least the cardinal merit of being, when properly handled, well within the comprehension of small boys and girls, whereas physical and historical geography on philosophical lines, too often resolves itself in practice into an attempt to explain the half-known by appeals to the incomprehensible.

When, for instance, we teach a fifteen-year-old class the commonly accepted account of the atmospheric circulation, we begin with a description of quite hypothetical currents, and then pass lightly over an elaborate tangle of diathermancy, convection, radiation, expansion, and pressure, friction, inertia, and condensation, to explain how these currents (which, as a matter of fact, do not blow precisely as they ought to do to fit the reasons stated) originate. It requires either an exceptional memory of youthful experiences, or else an exceptional sympathy, to realize how the boyish mind feels as this dry light falls upon it. On the

other hand, a mere topography, that lapses into explanation only when it is or appears to be inevitable, rather than a teaching that deliberately strains after reasonableness, may be made very attractive to the immature mind.

THE PIGEON-HOLE METHOD OF TREATMENT.

School masters and mistresses in the past unhappily found a way of making such an intrinsically characterless thing as topography almost disgusting. They practised the list method of teaching, and reduced the mental image of the world's surface to the form of pigeon-holes. I know one dear old lady, who was a proficient at that Georgian geography, and even yet she knows quite a respectable host of names, though many have in the course of years got into the wrong compartments. She has a kind of mental cabinet, England, with a pigeon-hole for each county, one for Europe subdivided into countries, and beyond large receptacles labelled "In Asia," "In Africa," and so on. Liverpool is in Lancashire, she knows, for instance, and Birkenhead is in Cheshire; but it has been elucidated that she is unaware whether these two places are one or a hundred miles apart.

Excellent people, by-the-bye, within quite recent years have devised games of cards for the mastery of this valuable form of geography, and have modestly (or for business reasons) attributed the greater glory of their invention to Froebel. Each leading town has a card devoted to it, and there are county cards as well, with lists of towns, and the ideal George and Tommy sit round tables and make up complete counties in a mood of ecstatic enjoyment, as the picture outside the pack witnesseth to any that doubt.

However, the practical schoolmaster and parent are growing out of this kind of thing, and the next higher level is no doubt atlas teaching. Instead of having your list in books, your pupils find the places first on maps, and so construct their own lists. We go over the map in class together, dabbling our fingers on geographical features and intoning their names.

And here, by-the-bye, one may notice an important matter for schoolmasters inclined to this method. Our atlases vary flagrantly. In one atlas you may find a desolate plain where in a second there is one long ridge of mountains, in a third a radiating system of spurs, and in a fourth a system of parallel chains. Let the teacher who doubts this assertion compare the contours of East Anglia in half-a-dozen respectable maps by different publishers. Where your geographical teaching consists of the mastery of parts of an atlas, therefore, you must be extremely careful to establish a standard map, one authority of indubitable orthodoxy, to which all disputes may be carried; otherwise children may become subtly infected with scepticism, and at last doubt altogether the sincerity of the educational process.

BLANK AND BLACKBOARD MAPS.

A little higher than atlas teaching is the blank easel map. With this it is customary, pointer in hand, to drill classes first collectively, and then with unexpected appeals to individuals; and no doubt much clearer and more refined conceptions of position are to be got in this way, and a skilful teacher can keep a class alive to its remotest corners; but a still better method is mapping.

By mapping is here intended sketch maps by the pupils, in pencil or ink, of the district studied, and not that elaborate imitation of atlas maps by which the sense of colour is cultivated at the ragged ends of terms. These sketch maps must be done in class, and the teacher, it must be admitted, has to work hard to get them done. Perhaps this is best effected by the teacher's accompanying the class himself on the blackboard. If he is, as all teachers of the subject should be, sufficiently expert, he can do this without depriving his pupils of the comforting sense of his watchful eye, and with a running suggestive commentary. "Let us begin here. The coast-line runs south, you see, for some way, then about twice the same distance eastward, and out into this jagged cape," and so on. In the same way he can call attention to the characteristic sinuosities of the rivers, and ensure the towns coming in their proper positions relative to coast and river and hill.

Thus far we have been tracing successive steps upward in the teaching of geography, but as yet it has been really simply an increasing refinement in the answer to the fundamental question, Where is A? It has been, in fact, the teaching of maps pure and simple. But now, with the teacher half-face to class, and with a simple map growing under his hands, we begin to find openings for teaching something beyond this mere localization of place names. It is so easy to pass from a mere descriptive paraphrase of your map-drawing to other matters.

DESCRIPTIVE GEOGRAPHY.

It is best, at any rate with boys, to let your declared object be merely to know the names and positions of places. But you lapse. You appear to be struck by a memory about a place, mention it involuntarily, glide into a reprehensible garrulity about this town and its people, tell of a siege, a difficulty of access, a local peculiarity, a remarkable product. The whole class listens, the bad boy best, and the good boy with a certain virtuous uneasiness. The general feeling of the class is a blissful consciousness of teaching being suspended.

And from such little slips from the path of rectitude one may load on to the engraving and the photograph. In any heap of old illustrated papers there are dozens of suitable scenes one may clip and put by. It is perhaps a mistake to put pictures of places and peoples in geographical textbooks,—pupils always look at them at the wrong times, they get "stale,"

and besides the suspicion is only natural that these things are intended to teach something. Such illustrations are looked at more keenly, and remembered far better, I think, if they seem to be no regular part of the school work, but genuinely accidental glimpses of the great real world outside beyond the pedagogic rule. It is ever so much more delightful to have the schoolroom door blow open for a moment and to peep through. Let your collection of scraps therefore seem to your class an amiable eccentricity of your own.

By such means a picture of this world may be made to grow in the most natural way in the pupil's mind. But it needs thought, time, and careful preparation. A teacher must like the subject for its own sake to do this kind of thing.

We need not stop at pictures and photographs. Almost every object has its geographical aspect and is available, if only the knowledge of the teacher is sufficiently wide. Even a collection of models and objects sold for the purpose might conceivably be utilized. The only absolutely indispensable requisites are wide knowledge and descriptive skill on the part of the teacher. Perhaps we should add a very considerable amount of leisure and energy, though these rare conditions seem to go without saying in all educational essays, possibly because most educational essayists are also enthusiastic educationalists, and do not realize, or have no patience with, the mortal nature of the teacher who does not write.

GEOGRAPHY AS SCIENCE.

In this way we rise from mere list, map, and diagram learning to genuine descriptive geography. Not only do we attempt to teach Where is A? but also, What kind of a place is A? Possibly if that is well done it should satisfy a reasonable ambition. But, as the average age of the class rises, a little thinking of the causes of things may be allowed to creep in rather than be designedly aimed at. It *must* do so if the teacher is to any extent geologist, physicist, or historian. We may incidentally discover why most towns stand on rivers, or why London is richer than Gloucester; why Liverpool distanced Bristol in the American trade, or why Scotland is poor. But beware of too much insistence upon the inevitableness of political geography and the positions of towns, or you may presently have pupils asking why Spain is poor, Galicia Austrian, or Babylon a desert. Sooner or later a question of this sort will crop up which it will either be inconvenient or impossible to explain.

The quality of the facts that may be chiefly considered in descriptive geography does not vary so widely as people imagine. A certain class of facts appeals most vividly to school children, and the next best is only the next best. I cannot imagine how "commercial geography" and trade details can possibly be anything else but boredom to any pupils but the precocious sons of self-discussing merchants. As a matter of fact, children have learnt the chief imports and exports of countries for years, and I think most grown-up people who can recall their school days will agree that this part of the subject stood absolutely alone in its terrific dullness. Of course children like to know where things come from, how they are made, and so forth, and if that alone is intended by commercial geography, there is no harm in it. But jargon about the markets of the world, export of nitrates and barilla, and trade in calamine, is merely so much crackling of thorns under the pot of the enterprising rather than conscientious teacher.

Physical geography, except where the science master adds geography to his duties, scarcely grows naturally out of the ordinary school subjects. It is perhaps better regarded as being absolutely separate. An opinion has already been intimated in this paper that it is anything but an elementary subject. If it is studied at all in schools, it should clearly follow a sound and experimental course in Heat, and should indeed be simply a series of complex concrete instances of the principles of that science. Beyond this the subject becomes rather speculative geology than a natural development of what is called and studied as geography in schools.

So much for geography *virginibus puerisque*. There is, however, a suggestion of something altogether wider, a great and orderly body of knowledge centering about man in his relations to space. Such a comprehensive study might well form the body of one of the courses of the University of the future, standing based upon elementary physical and biological science, and embracing political economy and ethnography. It is however, an ideal altogether too wide for daily use in a boys' or girls' school, and the conditions of the teaching would be fundamentally different.

One method of teaching I have avoided mentioning, wherein the nominal teacher in charge gives out the portion of the text-book to be studied, and then proceeds to mark registers, toss with himself—it is always a man—left hand against right, for halfpence, or write letters to his private friends. It is really not a bad way if the text-book is well done, and it is—how common? There are some good text-books on the subject now. At the risk of being invidious, one might mention Professor Meiklejohn's. Certainly this is better than really bad personal teaching, this teaching of thousands of pupils all over the world by one clever man. But, for the young at any rate, a living present teacher to work with them, even if he is not above mediocrity, is a far better thing. Besides, logically, one should go one step further. There is no need why pupils should meet together merely to read books. That they can do as well or better at home. And, writing in a paper for schoolmasters, one naturally keeps the schoolroom in mind.

H. G. WELLS.

REVIEWS.

Pindar: The Olympian and Pythian Odes. By C. A. M. Fennell. (Cambridge Press.) New Edition.

It is fourteen years since the first edition of this work appeared, and Mr. Fennell has spent the interval in collecting materials and making improvements which, as he says, render the new edition practically a new work. From first to last it has been overhauled and largely rewritten, the book being indeed only some twenty pages longer than before, but containing a very great number of additional notes, and omitting some portions of the original edition which bear less directly upon the text. The most noteworthy instance in the Introduction is the omission of the various Greek "Lives," and that of any explanation of Mr. Fennell's unadorned refusal to believe in the existence in Greece of any written metrical literature until so late as a generation after the Persian wars. The metrical schemes, which in their original form were included in the Introduction, have been entirely recast and arranged by strophes and epodes, and are now placed amongst the introductory remarks prefixed to each ode—a change of very obvious convenience. The analysis of the contents of each ode is revised, and there are appended some brief remarks as to the peculiarities of style in each case, with a list of words seemingly of Pindar's own coining. As for the notes, the most superficial alteration is in the type; the words to be annotated are now set in dark type, and the necessarily small print of the commentary is thus made much clearer. Finally, there are two Indices, a Greek and an English, both of which were wanting in the original edition; and the Plan of Olympia has been removed, together with the brief notes belonging thereto—and there is less reason for this than for other alterations.

Speaking generally, the alterations in the notes mainly take the shape of additional illustrations, references, and parallels, or of comment on points not noticed in the earlier edition. A considerable number of changes is due also to the omission of much philological matter. Mr. Fennell tells us frankly that he has almost entirely avoided etymology, as he believes "that the fashionable authorities are in many important respects thoroughly unsound." We think with him, and we compliment him on the courage of his disclaimer. In other respects the new book appears to be as complete as it well can be. We have noted a few minor errors, the dropping of accents for example, but otherwise there is no fault to be found with printers or proof-readers.

An Advanced Manual of Latin Prose Composition. By B. D. Turner, M.A. (Rivington.)

Books upon Latin composition, whether prose or verse, come thickly, but it is a long time since there has reached us any book upon the particular subject which is at once so pretentious and so satisfactory as is Mr. Turner's. It is essentially a book for students who have already made some considerable progress in the art of writing Latin prose—fifth-form boys in public schools, for instance; and it is so graduated as to reach a standard more than sufficient to satisfy any but the most exacting of would-be Ciceros. An introduction of one hundred and twenty-four pages is filled with workable hints on syntax, and equally practical notes on style, the period, the use of simile and metaphor, and other ornaments. These hints serve as a table of reference throughout the first two parts into which the exercises are divided. Both these parts are provided with notes, copious in the case of Part I., less so in the case of Part II.; and the compiler has evidently tried hard to smooth the beginner's path, and to familiarize him gradually with the use of every tool whereby an Edmund Burke may be transformed, not into Latin only, but into a Cicero. The third and last part is provided with no such aids, and contains passages severe enough, we should say, to tax the resources of a good many professed teachers of Latin prose. The exercises are wholly collected from the papers set in high-grade scholarship examinations, or taken direct from standard English classics; and in each part they are subdivided into narrative, oratory, dissertation, correspondence, and characterization. Indeed, both in point of ease or difficulty, and in point of subject, the extracts—they amount to three hundred and fifty—may fairly claim to cover the whole field of Latin prose writing of the best period. The volume is essentially one of which the merits must be proven by use, and by long use; but, so far as can be seen, from the point of view of those who would like to see Latin composition retain its place amongst the first

elements of a broad education, Mr. Turner has produced a capital book, and deserves that it should be properly tested.

A History of the Roman Empire, from its Foundation to the Death of Marcus Aurelius. By J. B. Bury, M.A. (Murray.)

At last! If we have had long to wait for this the latest of Mr. Murray's "Student's" Series, we may congratulate ourselves that it was reserved for such a man as Mr. Bury to supply the want. It is certainly curious that this particular period of Rome's history should have been so little in favour with latter-day historiographers, for it is a period abounding in interests of the deepest and the most varied kind—a period, too, in which, with scarce an exception, the great actors are by sight as well known to us as so many portraits in our albums. Curious too, that the few recent attempts to deal with it have been so little readable—*réchauffés* for the most part of Tacitus, or of scandal-mongers like Suetonius. No one can pretend that Merivale's "History of the Empire" is a model work, while Gibbon is scarcely concerned with the Julians; and as for smaller books, they have usually been as much romances as histories. There was needed a work in which facts and fictions, what is known and what was whispered, should be properly discriminated—a book which should embody all that has been learnt since Merivale concluded his labours, and which should arrange in continuous form the scattered gleanings from some dozens of commentators, archæologists, and historians.

This is what was wanted, and this is what Mr. Bury has done. It has been said that, to be qualified to write a small history, one must first have compiled a great one; and Mr. Bury has in every necessary sense fulfilled the requirements of the case, for he won his spurs some time ago with his great "History of the Later Empire"—a work which stamped him as a critic of ability, a thinker of broad view, and an agreeable writer. His new work, if less pretentious in range, is at least equal to its precursors in other respects. It commences with Augustus, and concludes where Merivale concludes. The style is terse, but very readable, leaving one with a not unpleasant conviction that the writer is "of facts all compact," and at pains only to set those facts fairly before his reader. The basis of the narrative is, of course, as it ought to be, the original historians—one can feel, as one reads, that Tacitus was at the author's elbow; but much that has heretofore done duty as historical material is very properly omitted, and those who would know how gossip ran in the Rome of Tiberius or Domitian have other books in plenty to consult. Controverted points are not allowed to interfere with the course of the narrative, but neither are they ignored; they are relegated to the end of the several chapters, as "Notes and Illustrations," and, containing as they do so much valuable matter, it is a grievous pity that these appendices are not included in the Table of Contents.

The lucidity with which are expounded the author's views on the first form of the Principate, is an admirable example of his power to put life into the dry bones of constitutional history. We think Mr. Bury is well advised in disengaging this side of his subject at the outset, contrary to the usual method: it may be dull reading to the average man, but he can grapple with it while his enthusiasm is keen, and, having mastered it, he will far more naturally make it a key to what may be called external history than *vice versa*; while it is in this direction that recent research has been most active and most successful, and that there is the greatest need for the modification or rejection of older views. The administration and condition of the provinces receive their due share of treatment, the conquest of Britain has a chapter to itself—*à propos*, has the author seen what he calls (p. 264) "the remains of one of the embankments of the Iceni" in Cambridgeshire?—and is he not aware that Professor Ridgeway would place the battle of Ostorins with the Iceni (Æt., Ann., XII., 31) amongst these very *fossæ Sancti Edmundi*? There are three chapters on the literature of the period; and, to conclude the volume, an interesting review of the life and manners of the time. Altogether it is an excellent and painstaking and well-judged work. It comes to us in the well-known dress of its series—the familiar black covers and red edges—to remind us of the days when we were at school. Like its fellows it is well furnished with maps, and with some seventy illustrations, mostly well chosen and well reproduced—a book which will, we are confident, more than satisfy those who have waited for such an one.

Parthia. ("Story of the Nations.") By George Rawlinson, M.A. (Fisher Unwin.)

In one way or another there has been a good deal written

about Parthia, yet to most men the name is an empty one, and even its "local habitation" is but dimly conceived as having been somewhere within "the ever-silent spaces of the East." Indeed, the history of the Parthian empire is one which more especially concerns the numismatist and the digger; its scattered fragments have been linked into very fair continuity by help of coins and excavations, but the genius of the nation has left little save tradition behind it. Such of us as are at all familiar with Roman history know that the Parthian horseman was a very real foe to Rome from the days of Crassus onwards for 270 years: we met him as a phantom rider in Horace, and the fends of his royal houses perplexed us much when we read Tacitus. But probably very few of us realized that there was a time when he called his own all between the Indus and the Euphrates, the Oxus and the Indian Ocean—a vast region, within which were swallowed up the lands of half a score of older empires, from the day of Elam to that of Seleucid Syria.

The volume before us does a great deal towards filling up the political map of Central and Western Asia between the years B.C. 250–227 A.D., and that it does not do more is not altogether the author's fault. He has put into a convenient shape most of what is known, and saves his reader the trouble of piecing together odd chapters from Merivale and Mommsen and Gibbon, and of hunting amongst the dust of forgotten shelves for *Arcana Antiqua* or the *Numismatic Chronicle*; for we have to turn even to the ancient books of China to supplement our meagre knowledge of the wars of Parthia in the far East. Where material is so scanty there is little room for that realistic writing and vivid portraiture in which even a historian may lawfully find relief. Any history of Parthia properly so-called must—in the present state of our knowledge—be somewhat dull reading; it is a subject wherein an author has little chance of error and little scope for enthusiasm, for in the whole of it there is perhaps but one act of well-known interest—the act where the curtain falls upon Crassus' death by Carrhae—and even here the late Camden Professor fails to arouse our sympathies. It is only fair to say that he is more successful in less dramatic matters. He sets in a bold light the chances of the conflict between the mounted Parthian archer and the Roman legionary; he points out how the first uprising of the Parthians in their highlands was the act of the Asiatic throwing down the gauntlet to Alexander's Greeks; and he pays fit tribute to the capacity for organization and administration which enabled the Arsacids for so long a space to hold together the incongruous elements of their vast empire—a capacity which, alike in its rapid bloom and speedy fall, recalls the Turk who followed in the wake of the Parthian. There are a few minor blemishes in the book—e.g., such doublets as *Hystaspes* and *Hystaspis*, *pro-consul* and *Proconsul*. On p. 138 the date 65 B.C. should be 66. On p. 149 the suggestion of Crassus obtaining his province *by lot* is misleading: he got it by the *lex Trebonia*. Finally, the author has a most irritating and needless way of sprinkling inverted commas over his pages.

NOVEL PRIZE BOOKS.

Three daintily got-up volumes, published by Messrs. Raphael Tuck & Sons, hardly need the inducements to purchasers held out on the front page of each. These inducements are of a novel character, and calculated to tempt all ages. In the most important book of the three, "Tennyson's Heroes and Heroines," golden bribes of £15 downwards are offered to those who most successfully print any one of four given poems by the late Laureate into the form of a readable prose story, or copy one of the pictures, both black and white and coloured, with which the book is liberally sprinkled. The text consists of extracts selected from Tennyson's shorter poems. The charming illustrations are by Mr. Marcus Stone and other well-known artists. Though perhaps a trifle too highly coloured, they are far more artistic than those to be found in most works of the "gift-book" order. Apart from being a passport to possible riches, the book is most suitable for a prize for a child, or a present to a grown-up person. It is pretty enough to be certain of being acceptable to either.

The second publication is for children only. It is a collection of tales "Told by the Sunbeams," and overflows with dainty pictures. There is a Literary Competition attached, with prizes varying from one to ten guineas.

Then comes a toy-book, "Treasures and Pleasures," for the very little ones. Even these are invited to be literary on the chance of winning a five-pound note. Prize or no prize, the book is sure to be a delight to any nursery.

SHORT NOTICES.

CLASSICS.

Herodotus, Book VIII. Edited by E. S. Shuckburgh, M.A. (Cambridge Press.)

With a critical introduction, a large number of notes, a historical and geographical index, and an appendix on the dialect of Herodotus, this volume contains all that is needful in a school edition. It is "an expansion from Mr. Shuckburgh's previous edition of the first ninety chapters" of the same book, which is a guarantee of its character.

The Adelphe of Terence. Edited by Sidney G. Ashmore, L.H.D. (Macmillan.)

The editor is Professor of Latin in Union College, Schenectady, N.Y. His introduction covers the usual ground—Latin Comedy and Comedians, the Terentian *mise-en-scène*, &c.; his notes are copious; and there is a critical appendix and an analysis of the metre of the play.

Exercises in Latin Prose Composition. By F. Ritchie, M.A. (Longmans.)

A larger book, in which are embodied the exercises from the same author's "First Steps in Latin." The remaining three parts gradually lead up to the harder forms of the compound sentence, stopping short of "continuous" prose. There is a long "English-Latin Syntax, i.e., a Syntax arranged with a view to Composition," and vocabulary.

Parallel Verse Extracts, for Translation into English and Latin. Compiled by J. E. Nixon, M.A., and E. H. C. Smith, M.A. (Macmillan.)

A very complete book for the use of those who have already learnt to write in verse. It is divided into parts destined respectively for elegiacs, lyrics, and hexameters, and has a valuable introduction to all three. A book for the highest class of sixth-form boys and for Universities.

The Gallic War of C. Julius Caesar, Book II. Edited by John Brown, M.A. (Blackie.)

An edition on the same lines as that of Book I., already noticed in this paper. The introduction contains sections on Caesar and his writings, Roman books and tactics, and hints on translation. The notes are sufficient, there are exercises to be turned into Latin, two plans to illustrate the text, geographical appendices, and vocabularies of both Latin and English.

Greek-English Lexicon to the New Testament. By W. J. Hickie, M.A. (Macmillan.)

A compact little dictionary of New Testament Greek, including proper names, with references to the passages where those words occur, and, where needful, the briefest possible indication of non-classical and Hellenistic forms.

Translations of (1) *Aristophanes' Vespæ*, by F. G. PLAISTOWE, M.A. (2) *Demosthenes adversus Leptinem*, by F. E. TRAYES, B.A. (3) *Terence's Phormio*, by F. G. PLAISTOWE, M.A. (4) *Cicero ad Atticum, IV.*, by J. H. HAYDON, M.A. (Clive.)

These four translations are the latest additions to the useful series of classical "aids," prepared by the University Correspondence College tutors, mainly for the benefit of examination candidates. The versions have the merits of being reliable and as nearly literal as is possible without degenerating into word-for-word jargon, and the value of each book is enhanced by the inclusion of a series of carefully drawn up sets of questions on grammar and difficult passages. Mr. Plaistowe falls into the trick of writing English as she is spoken by school boys (and their teachers) translating the classics, when he mixes slang and high falutin' in such sentences, as "In this fix, it's high time for you to seek some fresh device," and indulges in the quaint dialect bearing the honoured name of Bohn, when he thus expresses himself:—"I sorely long to make an end of it once and for all with this business," or "Why, even at that time, he was an old man, supposing, indeed, that old age gives men any sense of shame;" but both his versions are spirited enough. Mr. Haydon renders his Cicero prettily, though it is odd to find the eloquent Latin mentioning a "bawbee," quoting a French proverb, and airily referring to "Home, sweet home," in the space of ten lines or so. Mr. Trayes' is mere "crib," and poor stuff at that; the student will need to turn pretty frequently to the original to assist him in understanding Mr. Trayes: e.g. §§ 158-9.

Sallust: Catiline. Edited by T. M. NEATBY, M.A., and B. J. HAYES, M.A. (Clive.)

A good edition of the text, with a serviceable set of notes, an index of proper names, and useful introductory biography of the author.

SHAKESPEARE.

Romeo and Juliet: King Henry IV. (both Parts). Edited by K. Deighton. (Macmillan.)

We shall soon have a complete Shakespeare at Mr. Deighton's able hand. His method of editing is so well known to our readers that the present volumes call for little remark. As usual, he is very careful with the text, concise and straightforward in his introductory remarks on history and origins, fluently commonplace in æsthetic criticism, and terribly abundant in unnecessary annotation. The gentle Baboo, who needs to be told what blackberries are, will doubtless enjoy the statement that "phraseologies which are not idiomatic are paradigmatic"; but perhaps the noble British boy will not much esteem either piece of infor-

mation. The discussions of difficult readings are very thorough, and sometimes contain suggestions from which the Shakespearean scholar may learn something; they seem comically out of place in such an edition.

The Warwick Shakespeare.—(1) *Richard the Second.* Edited by C. H. Herford, Litt.D. (2) *Julius Caesar.* Edited by A. D. Innes, M.A. (Blackie.)

Dr. Herford's *Richard the Second* is as creditable to his accurate scholarship and wide reading as it is unsuitable for school use. The "Outline of Shakespeare's Prosody," with its grave recommendation of Siever's "Phonetik," as "a classic which should be in the hands of every student of versification," its commencement of the exposition with the explanation of "vowel-likes," syllabic variations, and fluctuations of accent, its casual passing allusion to "the bold enjambement of the later plays," its classification of pause-quality, is an excellent demonstration of its author's capacity for treating a difficult subject in a concise scientific way, and of his ignorance of the mere rudiments of practical class-teaching. Every page of the notes and introductory matter exhibits the same merits and defects; quotations and references, philological, phonological, and historical information, thoughtful criticism on the structure of the play abound—much of it totally irrelevant to the purpose in hand, most of it unfit for schoolboy digestion, and nearly all of it valuable to the right kind of student. Dr. Herford has learned from the Germans without aping them, and we should like to place a complete Shakespeare edited by him beside Delius; but we would not say one word that could induce any teacher to buy a copy for his pupils. For them even Mr. Aldis Wright is preferable. Mr. Innes annotates Shakespeare after the conventional fashion, plus rather more of the sign-post criticism than usual; there is no reason why his edition should not be used as well as another's. No one will accuse him of over-learning.

MODERN LANGUAGES.

Le Barbier de Séville. Edited by I. H. B. Spiers. (Isbister.)

An excellent edition of this splendid comedy, with a terse introduction on the life of Beaumarchais and his impress on the literature of his time. The book is provided with notes, competent, sober, and fully to the point.

(1) *Maroussia*, by P. J. Stahl. (2) *Une Ténébreuse Affaire*, by Balzac. Edited by J. Boiello. (Arnold.)

Two healthy and highly interesting stories, well adapted in every way to further benefit a fairly advanced student.

(1) *Mêle-toi de ton Métier*, by Mlle. Bruneau. Edited by W. S. Lyon, M.A. (2) *Le Col d'Antenne, et Le Lac de Gers*, by R. Töpfer. Edited by R. J. Morich. (Rivington.)

The first of these books is a further addition to the "Beginners' Texts" on the same lines as and fully on a par with its predecessors. The second is one of the "Intermediate" Series. The story is in Töpfer's easy, racy style, ever crisp and familiar, with never a lack of a touch of human nature. It can hardly fail to interest, and consequently to instruct. The notes are practical and will reward diligent perusal.

Scenes from Molière and other Standard Comic Writers. Edited by V. Kastner, M.A. (Hachette.)

A selection of interesting scenes in prose and verse, considerably selected and expurgated, from Molière, Brueys et Palaprat, Beaumarchais, Destouches, Regnard, constituting an instructive and enjoyable Reader. The explanatory notes and vocabulary are fairly exhaustive, while the introduction, on the "us et coutumes" of the times in which the plot of the plays is laid, is interesting.

Hachette's *Théâtre Français.*—*Le Baron de Fourcherif*, by Labiche and Jolly. Edited by H. Testard. *La Camaraderie, ou La Courte Échelle*, by Scribe. Edited by H. Bué. *La Cigale chez les Fourmis*, by Legouvé and Labiche. Edited by H. Testard. *Maître Corbeau*, by Raymond and Ordonneau. Edited by F. Julien. *Le Major Cravaillon*, by Labiche, Lefranc, and Jessé. Edited by F. Tarver. *Les Petites Godins*, by Ordonneau. Edited by F. V. E. Brughera. *Le Sanglier*, by Bisson. Edited by Professor H. Atwell. *Ma Fille et mon Bien*; *La Matinée d'une Étoile*, by Legouvé. Edited by L. Sers.

Adapted for schools and families, this new series of modern plays fulfils all its promises, and forms a valuable addition to the already extensive library of modern authors issued by the same firm. Each play is prefaced by a summary; the notes leave little unexplained; and the plays are mostly short enough to be got through easily in one term. The very low price at which the little books are published places them within the reach of all.

Army and Navy German Examination Papers. Edited, with a complete German-English Vocabulary, by J. F. Davis, D.Lit., M.A. (Hachette.)

This collection, which has been "compiled from papers recently set at public examinations," is very comprehensive. The volume might have been considerably improved if the editor had omitted some of the less interesting papers, and those which the examiners have incautiously culled from well-known Readers.

HISTORY AND GEOGRAPHY.

The Up-to-Date Gazetteer and Atlas. (Bacon.)

The "Up-to-Date" is undated, but it is a wonderful shilling's-worth in spite of its offensive title. It contains sixteen moderate sized, clearly

printed maps, and lists, and brief description, arranged according to countries, of the principal towns in the world. Having tested it here and there, and found it satisfactory, we feel no hesitation in recommending it as a handy little reference book.

A Descriptive Physical, Industrial, and Historical Geography of England and Wales. By Thomas Haughton. (Philip.)

Mr. Haughton here follows up his excellent work at the Liverpool Bluecoat School with equally excellent work for the benefit of his fellow teachers throughout the country. This volume is a well-arranged, closely printed, admirably indexed, and substantially accurate storehouse of facts, whence the teacher of the subject can cull many interesting things which would only be dull and bewildering in the class-book which the pupils use. Like his annotated "Summary of English History," it is a book which the teacher who can ill afford the money to buy—or the time to read—a library cannot well afford to be without.

An Elementary Geography of India. By Lionel W. Lyde. (Rivington.)

Like the previous four volumes in the "Glasgow Series of Elementary Geography," this is a short, crisp, and orderly summary of geographical facts. Rather more than a third of the book is taken up with describing the general features of India (historical position, surroundings, surface, climate, vegetation, minerals); the rest with an account of the provinces separately. The only serious defect we notice is the orthography; surely it is better to stick to the old spelling than, adopting the Hunterian mode, to confuse *a* and *d*.

Historical Reader, Standards V. and VI. By George Beach. (Allen.)

The readings (prose interspersed with verse) cover the period from 1453 to 1892; there are also forty illustrations. The book is advertised as "adopted by the London School Board," but neither in style of narrative, nor in binding, printing, maps, or illustrations does it come up to one or two other series of similar "readers" that are in the market.

DIVINITY.

The Epistles to the Colossians and to Philemon. Edited by H. C. G. Moule. (Cambridge Press.)

Mr. Moule's power of lucid and sympathetic exposition is just as impressive on the written page as in his Sunday evening lectures at Holy Trinity, Cambridge. The volume before us is divided pretty evenly between "text and notes," and introductions or other general matter. His remarks on the authenticity of the two epistles, on the meanings of the word "church," his illustrative bits of poetry, and his references to Professor Ramsay's recent work, are especially valuable.

The Gospel according to St. Luke. Edited by H. R. Heatley. (Rivington.)

The volume contains a business-like two-page introduction, a short tabular summary of the life of our Lord, a plain but sufficient map of Palestine, the Tischendorf text, in large, clear type, divided into paragraphs with italic headings, and, at the end, short notes and vocabulary of commendable brevity and point.

MISCELLANEOUS.

London Intermediate Arts Directory and Science Directory. (Clive.)

These books contain solutions by skilled experts to the questions set at Burlington House last July, along with the University regulations, notes on text-books, and much other information useful to the candidate for these examinations.

The Class Teacher's Guide to the Code Drawing. (Heywood.)

Mr. Alfonzo Gardiner (who is an "old hand" at the compilation of text-books for elementary schools) gives us here the portions of his larger work which are necessary for Standards I. and II. He is thoroughly practical.

Rudiments of the Theory of Music. By A. Gardiner. (Heywood.)

This little book covers the requirements of the pupil teachers' syllabus for the four years of apprenticeship, each year being treated separately. Mr. Gardiner deals with both notations *pari passu*, expounds clearly, and manages to pack the essentials of the subject into very small compass.

Practical Surveying. By E. W. Usill, A.M.I.C.E. (Lockwood.)

This is the third edition of what has deservedly become a standard text-book. It has been carefully revised and much enlarged, one of the chief additions being a set of tables of natural sines, tangents, secants, &c., which the publishers also issue separately in pocket-book form.

Paper Folding for Schools. By Lucy R. Latter. (Philip.)

A book of concise directions and neat diagrams. Children may learn from this how to make boats, bellows, mitres, tents, dress bows, and various other desirable objects, by the ingenious manipulation of scraps of paper. Practice in it will make the little fingers dexterous, while it keeps their little owners amused.

The Happy Reader. Part III. By E. L. Young. (Simpkin.)

Completes the author's systematic series, with a part devoted to "the long-vowel sounds." It is freely adorned with pictures for painting.

Nature Stories for Young Readers. By M. F. Bass. (Isbister.)

A collection of pretty little tales for children, about seeds, sun, seasons, &c. It is printed in large, clear type.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A meeting of the Council took place at the College, Bloomsbury Square, on the 16th September. Present—Dr. Wormell, Vice-President, in the Chair; Mr. Barlet, Mr. Brown, Dr. Buehheim, Miss Buss, Mr. Charles, Mr. Chettle, Rev. Dr. Conder, Dr. Dillon, Mr. Eve, Mr. Harris, Rev. Dr. Hiron, Mr. Kimber, Rev. R. Lee, Mr. Milne, Mr. Pinches, Mr. Reynolds, Mr. Robinson, Rev. W. J. Savell, and Rev. Dr. Seott.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the Public Distribution of Prizes, Diplomas, and Certificates, awarded on the results of the recent Midsummer Examinations of Teachers and Pupils, would take place on the 14th of October, when the Chair would be taken by the Rev. J. E. C. Welldon, Headmaster of Harrow.

He reported that the Professional Preliminary Examination had been held on the 5th to 7th September, and had been attended by 197 candidates.

Three members of the Council were appointed to represent the College at the Conference on Secondary Education, convened by the University of Oxford, to be held at the Examination Schools, Oxford, on the 10th and 11th of October.

The Treasurer presented the report of the Finance Committee, which was adopted.

The following persons were elected members of the College:—

- Rev. W. Dunn, M.A. Camb., St. Matthew's Vicarage, Leeds.
- Rev. H. D. Elam, M.A. Oxon., Elsham Road, Kensington, W.
- Miss F. I. Guthrie, A.C.P., Tynawr, Rhuddlan, N. Wales.
- Mr. W. Harrison, B.A. Camb., Beaumont House School, Jersey.
- Miss A. S. Hughes, A.C.P., St. Denys' School, Murree, Punjab, India.
- Mr. A. Paul, M.A. Lond., L.C.P., 4, Berkeley Road, Crouch End, N.
- Mr. W. E. Peters, A.C.P., Brunswick House, Maidstone.
- Rev. J. E. Symns, M.A. Camb., Woodford Wells, Essex.
- Mr. F. W. Walker, M.A. Camb., Headmaster of St. Paul's School, West Kensington, W.
- Mr. C. B. Wood, A.C.P., High Pavement Higher Grade School, Nottingham.

The following books have been presented to the library since the last meeting of the Council:—

- BY THE AUTHOR.—Schäfer's *Our Beautiful World: A School Operetta*.
- BY MR. J. F. MOON.—Sophocles' *Tragedies* (Capperonier and Vauvilliers' Edition), 2 vols.
- CASSELL & Co.—Miall's *Object Lectures from Nature*, Parts I. and II.
- CLARENDON PRESS.—Bayne's *Scott's Lord of the Isles*.
- CLAY & SONS, C. J.—Moule's *Epistles to the Colossians and to Philemon* (Cambridge Bible); Shuckburgh's *Herodotus*, Book VIII.; Taylor's *Euclid*, Books V. and VI.
- CLIVE & Co., W. B.—London *Matriculation Directory*, June, 1893; Briggs and Edmondson's *Mensuration of the Simpler Figures*; Low's *Intermediate Text-Book* English Literature, Vol. II.
- LAURIE, T.—Structure and Functions of the Human Body; J. S. Laurie's *New Standard Primer*, Books I. and II., and *New Standard Reader*, Book I.; J. W. Laurie's *Home and its Duties*, and *Kensington Reader*, Book III.; Michel's *Easy French Grammar for Beginners*; Scott-White's *Chemical Analysis*; and Smith and Field's *Elementary Geology*.
- MACMILLAN & Co.—Deighton's *Macaulay's Lord Clive*, and Macaulay's *Warren Hastings*; Hiekie's *Greek-English Lexicon to the New Testament*; Leaf and Bayfield's *Homer's Iliad*, Book VI.; Thomas's *Enunciations in Arithmetic, Algebra, Euclid, and Trigonometry*.
- PHILIP & SON, G.—Latter's *Paper Folding for Schools*.
- RELFE BROS.—Carter's *School Geography and Atlas*.
- WHITTAKER & Co.—Jukes Browne's *Geology*.
- Calendars of Edinburgh University; Glasgow University; Royal University of Ireland, and Supplement; University College, Bristol; Yorkshire College, Leeds; Institution of Civil Engineers.

COLLEGE OF PRECEPTORS.

PROFESSIONAL PRELIMINARY EXAMINATION—PASS LIST.

SEPTEMBER, 1893.

The Supplementary Examination by the College of Preceptors for Certificates recognised by the General Medical Council, the Incorporated Law Society, the Royal College of Veterinary Surgeons, the Pharmaceutical Society of Great Britain, and other bodies, was held on the 5th, 6th, and 7th September, in London, and at four other local centres, viz., Birmingham, Bristol, Leeds, and Liverpool. The following candidates obtained Certificates:—

SECOND CLASS.

First Division.

Barrow, H. P. W.	Hutchinson, G. A.	Parsons, A. R. C.
Bennett, T.	Lightfoot, J. H.	Pern, N.
Butler, H. B.	Lister-Kaye, A.	Stedman, P. T. H.
Cox, F.	Marshall, C. de Z.	Stembridge, E. C.
Fenton, T. G.	Mesrope, G. P.	Thomas, A. R.
Fuller, L. O.	Middleton, P. E.	Thorne, R. T.
	Milestone, E. S.	

Second Division.

à Beckett, A. H.
Alderson, F. B.
Atkin, A. J. R.
Bayly, F. S. G.
Bell, A. O.
Brown, E. K.
Burgess, P. C.
Busby, G. H.
Campbell, G. G.

Clayton, F. R.
Crawford, V. J.
Davis, D.
Durrans, J. B.
Hart, J. H.
Howells, J.
Longbotham, J. H.
Macdonald, J. N.
Mansell, T.
Mosely, L.

Nugent, E.
Orton, H. F. T.
Pavitt, P. G.
Smith, J. N.
Steavenson, C. S.
Trewby, E.
Williams, G. W. S.
Wood, C. H.
Wood, E. M.

Third Division.

Bartlett, E. J. R.
Bignold, H. H.
Blake, F. J. G.
Bunting, A. H.
Cullin, H. J.
Dixon, A. H.
Farrer, C. R.

Griffiths, E. H.
Horsbrugh, C. B.
Joscelyne, H. P.
Macdonald, W. R.
Parker, H. A.
Phillips, H. W.
Roberts, F. H.

Scott, H. M.
Soames, P. H.
Steweni, G. H.
Vawdrey, P. L.
Vincent, G. G.
Walker, F. G.
Wynne, G. S. A. S.

The following qualified for Registration as Medical Students, but did not pass in all the subjects required for a Second Class Certificate:—

Baiss, L. A.
Baker, A. R.
Belsey, H. H.
Cooke, F. A.
Crompton, R. H.
Donaldson, R. F.
Drake-Brockman, R. E.
Fleming, J. K. S.

Grindle, C. P.
Hoban, T.
Kirkconnel, E. B.
Kirkman, A. H. B.
Lewis, A. C.
Maltby, W. E. G.
Manning, R. H.
Mayhew, C. J.

Nicholl, E. E.
Parkinson, G. J.
Pritchard, S. C.
Richards, F. G.
Roberts, G. A.
Shenton, E. W. H.
Takaki, Y.

The following passed in subjects required to complete their qualification for Registration as Medical Students:—

Anderson, W. M.
Bradford, S.
Costin, C. C. Q.

Hall, R. C. B.
McAdam, H. C. V.
Milbanke, W. B.
Nettleton, C. J.

Poulter, M. C.
Powell, J. E.
Schlesinger, W. A.

MATHEMATICS.

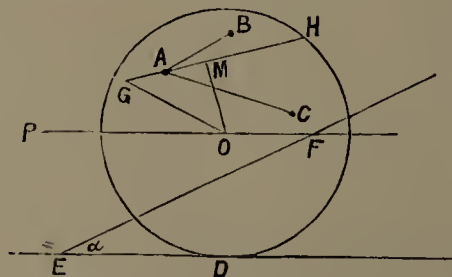
11246. (ELIZABETH BLACKWOOD.)—Three points are taken at random within a sphere on a horizontal plane; find the chance that the plane passing through the three random points will make with the horizontal plane an angle less than a given acute angle α .

Solution by Professor ZERR.

Let GH be the diameter of the section of the sphere made by a plane through the three random points A, B, C; M its centre; O the centre of the sphere; FOP a line parallel to the plane DE such that the line AB is parallel to the plane MOP.

Let OG = r , MA = u , AB = v , AC = w , $\angle GOM = \theta$, $\angle BAM = \phi$, $\angle CAM = \psi$, $\angle MOP = \lambda$, and the angle the plane POM makes with some fixed plane through OP = ρ .

An element of sphere is, at A, $r \sin \theta d\theta 2\pi u du$; at B, $r^2 dv d\phi d\lambda$; at C, $\sin(\phi + \psi) \sin \lambda w^2 dw d\psi d\phi$.



11985. (PROFESSOR GOPALACHARI.)—A, B, C are three points not in the same straight line. Find a fourth point O, such that the sum of AO, BO, CO is a minimum.

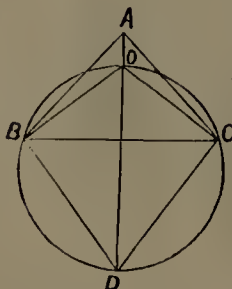
Solution by R. CHARTRES; W. J. DOBBS, M.A.; and others.

On BC draw an equilateral triangle BCD. Then O, the point required (FERMAT'S point), is the intersection of the circumcircle of BCD with AD.

This is the same as Question 11056, Vol. 56.

See also Question 10210, Vol. 54, where an excellent generalized proof is given by Mr. E. M. LANGLEY, M.A.

[The rest in Volume.]



11763. (PROFESSOR SOLLERTINSKY.)—Sur les côtes AX, AY d'un angle donné, on prend deux segments variables AB, AC satisfaisant à la condition $AB + AC = 2p$. Démontrer que la droite BC enveloppe une parabole de paramètre $p \sin \frac{1}{2}A \tan \frac{1}{2}A$; le point de contact de BC est l'iso tonique du pied de la bissectrice de l'angle BAC.

Solution by H. W. CURJEL, B.A.; W. J. GREENSTREET, M.A.; and others.

The equation to BC is

$$x/(p + \lambda) + y/(p - \lambda) = 1,$$

$$\text{or } u \equiv p^2 - \lambda^2 + \lambda(x - y) - p(x + y) = 0;$$

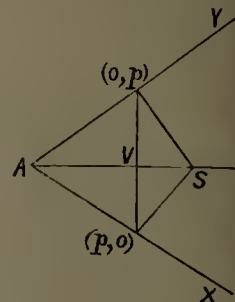
$\therefore$ envelope of BC, being result of eliminating λ from $u = 0$ and $du/d\lambda = 0$, is

$$\frac{1}{4}(x - y)^2 - p(x + y) + p^2 = 0;$$

$\therefore$ distance from focus to vertex V

$$= p/\cos \frac{1}{2}A - p \cos \frac{1}{2}A = p \sin \frac{1}{2}A \tan \frac{1}{2}A.$$

since A, $(p, 0)$, $(0, p)$ and the focus S are concyclic, and AS bisects the angle YAX.



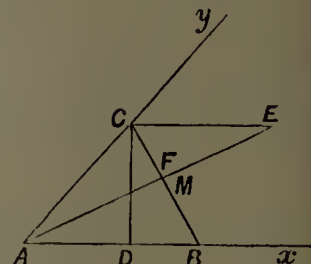
11859. (PROFESSOR NEUBERG.)—Etant donné un angle xAy et un point M, une droite quelconque menée par M coupe Ax en B, Ay en C; on inscrit dans le triangle ABC un carré dont un côté repose sur Ax. Trouver le lieu du sommet du carré situé sur BC.

Solution by R. KNOWLES; PROFESSOR BEYENS; and others.

Through C draw CE parallel to AB and = CD. Join AE, meeting BC in F. Then the locus of F is required.

$$\cot FAB = (AD + CD)/CD = 1 + AD/CD = 1 + \cot A.$$

Therefore the locus required is the line AE, and is independent of the point M.



4178. (R. TUCKER, M.A.)—In the ambiguous case of plane triangles (a, B being fixed and b variable), find the mean area of the triangle contained by the base and the median lines from C.

Solution by H. J. WOODALL, A.R.C.S.

The length of the base intercepted between the two medians is $b \cos A$; then the height of the triangle is $a \sin B$;

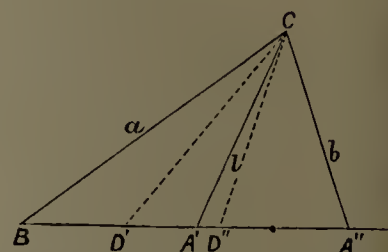
$$\text{hence area} = \frac{1}{2}ab \sin B \cos A.$$

$$\text{But } b = a \sin B / \sin A,$$

$$\text{and } db = -\{a \sin B \cos A / \sin^2 A\} dA;$$

$$\therefore \text{required mean} = \int_{a \sin B}^a \frac{1}{2}a^2 \sin^2 B \cot A db / \int_{a \sin B}^a db.$$

[The rest in Volume.]

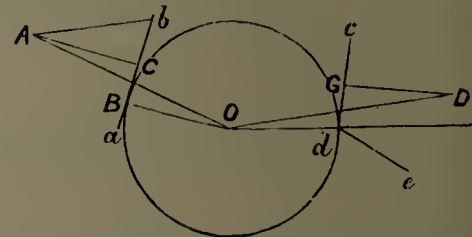


992. (S. WATSON.)—A circle and square have the same perimeter, and the latter is rolled round the circumference of the former; find the area of the locus of its centre.

Solution by Professor G. B. M. ZERR.

Let a regular polygon of m sides, having same perimeter as circle, roll on the circle.

Let ab be one of the sides of the polygon as it moves from tangency at a to tangency at b ; cde a portion of the polygon as it moves from tangency to cd to the position of tangency to de , d remaining at the same point. Let r be the radius of the circle, A, D the centre of the polygon in different positions, C the mid-point of ab , G the mid-point of cd .

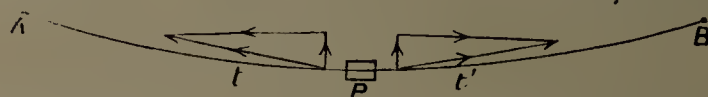


[The rest in Volume.]

9310. (PROFESSOR SATIS CHANDRA RAY, M.A.)—Show from statical principles that a string cannot be kept stretched evenly between two points in a horizontal line by any amount of tension unless its mass is infinitesimal.

Solution by D. WATSON, M.A.

Take a string suspended loosely between two points A, B, which are in a horizontal line. Take a particle of the string small enough to be



regarded as a rigid body. Its equilibrium is maintained by two forces t and t' acting in the directions of the string. Each of these can be resolved into a horizontal and a vertical component, of which the horizontals neutralize each other. The sum of the vertical components supports the particle against gravity. If the string were perfectly horizontal, the vertical components would = 0; hence $mg = 0$; or the particle, and hence the string, is without mass.

726. (EDITOR.)—From one of two bags, whereof each contains 4 white and 4 black balls, 4 are taken at random, and transferred to the other bag; then, 8 being drawn from the latter, 6 of them prove white and 2 black: find the chance that, if another be drawn, it will be white.

Solution by D. BIDDLE and K. S. PUTNAM, M.A.

The four balls taken from the first bag may be (1) all white, (2) three white and one black, (3) two white and two black, (4) one white and three black, or (5) all black, and the respective probabilities are $\frac{1}{70}$, $\frac{1}{70}$, $\frac{3}{70}$, $\frac{1}{70}$, $\frac{1}{70}$. But the stated fact, as to the character of the subsequent drawing from the second bag, shows that at least two white balls must have been taken from the first bag, and this excludes the two last probabilities above given. If only two white balls were taken, $P = 0$; if three, $P = \frac{1}{4}$; if four, $P = \frac{1}{2}$. Consequently,

$$P = (36 \times 0 + 16 \times \frac{1}{4} + 1 \times \frac{1}{2}) / 53 = 9/106 = .085 \text{ nearly.}$$

11767. (R. TUCKER, M.A.)—ABC is a triangle of which DE, FG, HK are equipotential antiparallels; ρ_1, ρ_2, ρ_3 are the radii of (ADE), (BFG), (CHK). Prove that (1) $AD \cdot BF \cdot CH = AE \cdot BG \cdot CK = DE \cdot FG \cdot HK$; (2) $\rho_1 : \rho_2 : \rho_3 = a : b : c$; (3) $\Pi(\Delta ABC) : \Pi(\Delta ADE) = R^6 : \rho_1^2 \rho_2^2 \rho_3^2$; where a, b, c are the points of section of the circum-circle ABC by the circles ADE, BFG, CHK.

[By equipotential antiparallels are meant antiparallels so drawn that the potency of A with regard to (BCDE) = potency of B with regard to (CFGD) = potency of C with regard to (AHKB). Another property of the points a, b, c is given in Quest. 4630 in the *Ed. Times* for March, 1875.]

Solution by the PROPOSER.

Let the potency be denoted by μ^2 ;

then

$$AB \cdot AD = \mu^2 = AC \cdot AE,$$

$$BC \cdot BF = \mu^2 = BA \cdot BG,$$

$$CH \cdot CA = \mu^2 = CB \cdot CK;$$

$$\therefore AD \cdot BF \cdot CH = AE \cdot BG \cdot CK = DE \cdot FG \cdot HK$$

(by similar triangles) (i.)

$$\text{Again, } \mu^2 = AC \cdot AE = (2R \sin B)(2\rho_1 \sin C);$$

$$\therefore \rho_1 / \sin A = \rho_2 / \sin B = \rho_3 / \sin C, \text{ hence (ii.)}$$

$$\text{Now } \frac{\Delta ABC}{\Delta ADE} = \frac{aB \cdot aC}{aD \cdot aE} = \frac{R^2}{\rho_1^2}, \text{ hence (iii.)}$$

4496. (The late T. COTTERILL, M.A.)—A and S are fixed points, P a variable point on a given line d ; show that the locus of the intersection of AP with the line of reflexion of AS in SP is the conic of which A is a point, S a focus, and d the corresponding directrix.

Solution by H. J. WOODALL, A.R.C.S.

In the figure, let $AS = a$, $TS = b$, and the angles as marked.

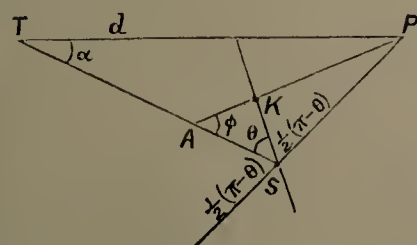
$$\text{Then } SP = b \sin \alpha / \sin \frac{1}{2}(\pi - \theta - 2\alpha) \\ = b \sin \alpha / \cos \frac{1}{2}(\theta + 2\alpha);$$

hence, taking S as pole and ST as initial line, we find

$$r = SK = a \sin \phi / \sin(\theta + \phi),$$

$$\text{where } a \sin \phi = SP \sin(\phi + \frac{1}{2}\pi + \frac{1}{2}\theta).$$

[The rest in Volume.]



11743. (C. MORGAN, M.A., R.N.)—Let x, y, z be the distances of the centre of the nine-point circle of ΔABC from the angular points, d its distance from P the orthocentre. Let the nine-point circle of the triangle formed by joining the middle points of PA, PB, PC be taken, and so on. Prove that, if ρ is the radius of the nine-point circle,

$$2\Sigma(x^2 + y^2 + z^2) = \frac{8}{3}(x^2 + y^2 + z^2) = \frac{4}{3}(PA^2 + PB^2 + PC^2) + 16\rho^2 - 8d^2.$$

Solution by Professors ZERR, BHATTACHARYA, and others.

Let n be the nine-point centre of ABC , n_1 that of the triangle formed by joining the mid-points of PA, PB, PC, n_2 that of second triangle so formed, and so on. Then $An = x$,

$$Bn = y, Cn = z, nP = d, na = \rho.$$

From the similar triangles

$$AnP, an_1P, bn_2P, \&c.,$$

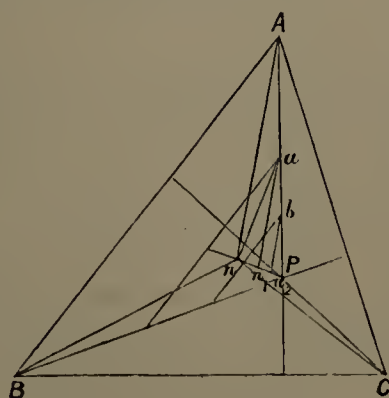
$$\text{we get } an_1 = \frac{1}{2}An = \frac{1}{2}x;$$

$$\therefore an_1^2 = \frac{1}{4}x^2,$$

$$bn_2 = \frac{1}{2}an_1 = \frac{1}{4}An = \frac{1}{4}x;$$

$$\therefore bn_2^2 = \frac{1}{16}x^2.$$

[The rest in Volume.]



11845. (J. MACLEOD.)—BC, CA are chords in a circle, the angle BCA being right, and E the point of bisection of CA. BE is produced to meet the circumference in F, and BH is taken on BF, = EF, while a point G on the circumference is taken such that HG = CE. Prove that FG passes through the centre of the circle.

Solution by W. J. CONSTABLE, M.A.; W. J. DOBBS, B.A.; and others.

Produce GH to meet the circle in X; then

$$GH \cdot HX = BH \cdot HF = BE \cdot EF = AE \cdot EC;$$

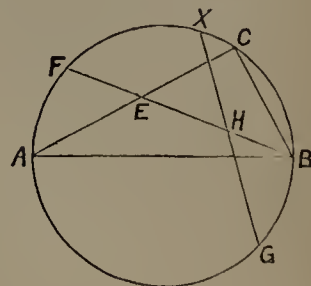
$$\therefore XH = AE = EC = HG; \text{ hence}$$

H is mid-point of the chord XG, and BF

passes through mid-point of two equal chords

AC, GX; wherefrom it follows that, as BA

is a diameter, so also is FG.



9866. (Rev. T. ROACH, M.A.)—The ordinate MP of an hyperbola is produced to Q, so that MQ = SP. Find the locus of Q by a geometrical construction. [This theorem is proved analytically in TOMLINSON'S *Conics*, Chap. XI., Ex. 2.]

Solution by Professor ZERR.

To construct a conic section, let F be the given point, AB the given straight line, and M : N the given ratio.

Through F draw MN parallel and CX perpendicular to AB. Take FM = FN, so that

$$FM \text{ or } FN : FC :: M : N.$$

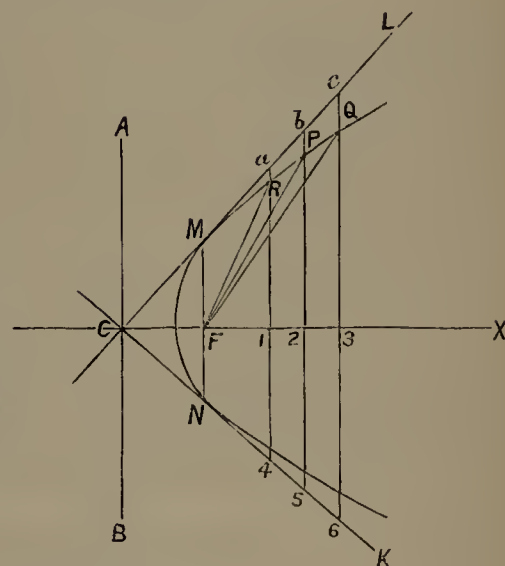
Through M, N draw CL and CK; also draw the parallels to MN, $a_1, b_2, c_3, \&c.$ Take the length of any perpendicular, as a_1 , on the compasses, and with one foot on F, note where the other falls on a_1 . The points thus found will indicate the curve.

Therefore, by construction,

$$FR = (SP \text{ in the example})$$

$$= a_1 = (MQ \text{ in the example}).$$

Therefore the locus of Q is the straight line CL.



11960. (Professor IGNACIO BEYENS.)—Soit un cercle de diamètre AB; si l'on mène un rayon quelconque OM et la droite MA' qui forme avec AB l'angle $MA'O = MOA'$, si l'on prend la distance $A'C = l$ (constante) sur A'M, on demande le lien des points C ainsi déterminés?

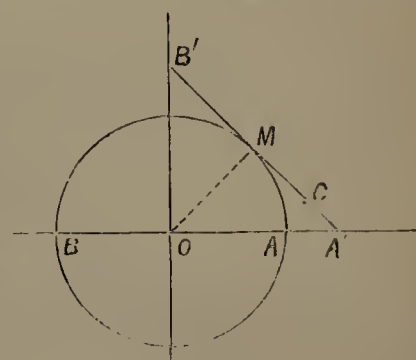
Solution by Professor DROZ FARNY;

R. KNOWLES, B.A.; and others.

Prolongeons MA' jusqu'à son point de rencontre B' avec le diamètre perpendiculaire à AB. On a évidemment $OM = MB'$, et par conséquent $A'B' = 2R$.

Le lien de C est donc une ellipse concentrique au cercle ayant pour demi axes situés sur

$$OA \text{ et } OB' : 2R - l \text{ et } l.$$



7162. (Prof. ORCHARD, M.A., B.Sc.)—ABC is a "perfectly rough" inclined plane. When AC is base a sphere rolls down in the same time that a cylinder does when AB is base. Find the angle of the plane.

Solution by Professor G. B. M. ZERR.

$$\text{Let } BC = x, \angle BCA = \beta.$$

Then, for the sphere, we have

$$d^2x/dt^2 = 5g/7 \sin \beta, \quad x = \frac{5}{14}g \sin \beta \cdot t^2 \dots (1).$$

For the cylinder, we have

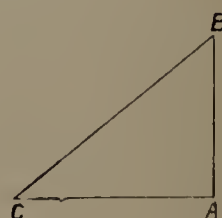
$$d^2x/dt^2 = 2g/3 \cos \beta,$$

since

$$\sin ABC = \cos ACB,$$

$$x = g/3 \cos \beta \cdot t^2 \dots (2),$$

$$(1) \div (2) \text{ gives } \tan \beta = \frac{1}{5}, \quad \beta = 43^\circ 1' 30'' +.$$



11875. (W. J. GREENSTREET, M.A.)—If $\lambda_a, \lambda_b, \lambda_c$ be the joins of any point on the in-circle to the angular points of a triangle, find the value of $\Sigma \lambda_a^2$.

Solution by C. MORGAN, M.A.; W. J. DOBBS, B.A.; and others.

Let $\angle POB = \theta$; then

$$\angle POC = 90 + \frac{1}{2}A + \theta, \quad \angle POA = 90 + \frac{1}{2}C - \theta,$$

r = radius of in-circle;

then we have the following equations:—

$$PB^2 = r^2 + OB^2 - 2rOB \cos \theta$$

$$= r^2 \left\{ 1 + \operatorname{cosec}^2 \frac{1}{2}B - 2 \operatorname{cosec} \frac{1}{2}B \cos \theta \right\}$$

$$PC^2 = r^2 + OC^2 - 2rOC \cos (90 + \theta + \frac{1}{2}A)$$

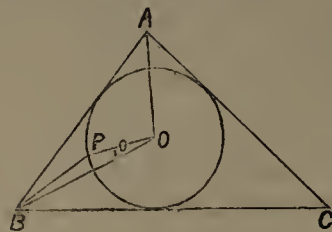
$$= r^2 \left\{ 1 + \operatorname{cosec}^2 \frac{1}{2}C + 2 \operatorname{cosec} \frac{1}{2}C \sin (\theta + \frac{1}{2}A) \right\}$$

$$PA^2 = r^2 + OA^2 - 2rOA \cos (90 + \frac{1}{2}C - \theta)$$

$$= r^2 \left\{ 1 + \operatorname{cosec}^2 \frac{1}{2}A + 2 \operatorname{cosec} \frac{1}{2}A \sin (\frac{1}{2}C - \theta) \right\};$$

$$\therefore \sum a \lambda a^2 = r^2 \sum a (1 + \operatorname{cosec}^2 \frac{1}{2}A),$$

for the coefficients of $\sin \theta$ and $\cos \theta$ are easily seen to each vanish.



483. (J. H. SWALE.)—In the radius OA, produced, of a circle, take any point P, and draw the tangent PT; produce OP to Q, making PQ = PT, and draw the tangent QV; if VR be drawn perpendicular to OA, prove that PR = PQ = PT.

Solution by J. C. ST. CLAIR.

Join OT, OV; then

$$OT^2 = OP^2 - PT^2$$

$$= (OP + PT)(OP - PT);$$

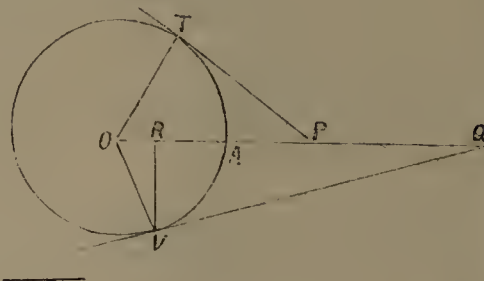
$$OV^2 = OQ \cdot OR$$

$$= (OP + PQ)(OP - PR).$$

But OT = OV,

and PT = PQ;

$$\therefore PR = PT = PQ.$$



2015. (C. LEUDESORF, M.A.)—If $A = bc - f^2$, $B = ca - g^2$, $C = ab - h^2$, $F = gh - af$, $G = hf - bg$, $H = fg - ch$,

and if A', B', C', F', G', H' denote similar expressions with regard to the accented letters a', b', c', f', g', h' , prove that

$$\begin{vmatrix} hf' + h'f - bg' - b'g & gh' + g'h - af' - a'f & ab' + ba' - 2hh' \\ G' & F' & C' \\ G' & F' & C' \end{vmatrix} = \begin{vmatrix} a'G' + h'F' + g'C' & h'G' + b'F' + f'C' \\ aG' + hF' + gC' & hG' + bF' + fC' \end{vmatrix}.$$

Solution by H. J. WOODALL, A.R.C.S.; Professor SARKAR; and others.

Take coefficients of C on both sides.

$$\text{This is } \begin{vmatrix} gh' + g'h - af' - a'f & hf' + h'f - bg' - b'g \\ F' & G' \end{vmatrix}$$

$$- \begin{vmatrix} a'G' + h'F' + g'C' & h'G' + b'F' + f'C' \\ aG' + hF' + gC' & hG' + bF' + fC' \end{vmatrix}$$

$$= G'(gh' - a'f) - F'(hf' - b'g) - C'(fg' - f'g)$$

$$= g(h'G' + b'F' + f'C') - f(a'G' + h'F' + g'C') = 0;$$

so coefficients of F and G are each equal zero;

$\therefore$ the two determinants are equal.

QUESTIONS FOR SOLUTION.

12088. (Professor SYLVESTER.)—Prove that, for complex numbers $a + bp$, where $p^2 + p + 1 = 0$, 2 is a quadratic residue for all prime real integers of the form $24i + 5$.

Example: $(1 - 3p)^2 = 1 - 6p + 9p^2 = -8 - 15p \equiv (\text{mod } 5).$

12089. (Professor MORLEY.)—Let A', B', C' be the centres of the McKay circles of a triangle ABC. Evidently the perpendiculars from A', B', C' on BC, CA, AB meet at a point, namely the circumcentre. Prove that the perpendiculars from A', B', C' on CA, AB, BC (and similarly those on AB, BC, CA) meet at a point.

12090. (Professor NEUBERG.)—On donne dans un même plan deux droites AC, BD égales et perpendiculaires entre elles. Démontrer que l'on peut construire une infinité de quadrilatères $A'B'C'D'$ tels que les points A, B, C, D sont les centres des carrés construits extérieurement sur les côtés $A'B', B'C', C'D', D'A'$; les points A', B', C', D' décrivent des figures égales.

12091. (Professor CAYLEY.)—An unclosed polygon of $(m + 1)$ vertices is constructed as follows: the abscissas of the several vertices are 0, 1, 2, ... m, and, corresponding to the abscissa k, the ordinate is equal to the chance of $(m + k)$ heads in 2m tosses of a coin; and m then continually increases up to any very large value; what information in regard to the successive polygons, and to the areas of any portions thereof, is afforded by the general results of the Theory of Probabilities?

12092. (Professor SIR ROBERT BALL, F.R.S.)—In Laplace's theory of Jupiter's satellites, the mass of Jupiter is the unit of mass, the equatorial radius of Jupiter is the unit of length, and the gravitation of two unit masses situated at a unit distance is the unit of force. Laplace says that the square of the mean motion of Jupiter multiplied into the cube of his mean distance is equal to the mass of the Sun. Determine the number of mean solar seconds in Laplace's unit of time.

12093. (Professor ZERR.)—Find the volume common to the solids whose surfaces are given, where $a > b > c$, by

$$(x/a)^{\frac{2}{3}} + (y/b)^{\frac{2}{3}} + (z/c)^{\frac{2}{3}} = 1, \quad x^{\frac{2}{3}} + y^{\frac{2}{3}} + z^{\frac{2}{3}} = b^{\frac{2}{3}} \dots\dots\dots (1),$$

$$(x/a)^{\frac{2}{3}} + (y/b)^{\frac{2}{3}} + (z/c)^{\frac{2}{3}} = 1, \quad x^{\frac{2}{3}} + y^{\frac{2}{3}} + z^{\frac{2}{3}} = b^{\frac{2}{3}} \dots\dots\dots (2).$$

12094. (Professor CLAYTON.)—Show how to construct (mechanically) a square which shall be exactly equal to a given circle; also a circle equal to a given square; using only a straight line and circle in the construction.

12095. (Professor RAMASWAMI AIYAR.)—If a harmonic polygon A inverts from any point into one having the same Brocard circle as another B, then B inverts from the same point into one having the same Brocard circle as A.

12096. (Professor NEUBERG.)—On donne dans un même plan deux droites AB, CD et un point M. On construit le triangle CDM' semblable à ABM, le triangle CDM'' semblable à ABM', le triangle CDM''' semblable à ABM'', &c. Démontrer que les points M, M', M'', M''', &c., appartiennent à une même spirale logarithmique.

12097. (Professor BERNÈS.)—Sur les trois côtés d'un triangle ABC on prend trois segments quelconques DD', EE', FF'. Démontrer que les axes radicaux des circonférences circonscrites à AEF, AE'F'; BFD, BF'D'; CDE, CD'E' sont trois droites concourantes. Deux des segments étant donnés, déterminer le troisième par la condition que le point de concours soit commun aux six circonférences.

12098. (Professor SHIELDS.)—Of A., B., C., trading in stock, A. had 100 mules and 214 horses. A. sold B. three-fifths as many horses as B. already had, and also sold C. two-fifths as many mules as C. already had, then, after the sale and delivery, three-eighths of A.'s horses were equal to two-thirds of B.'s horses, and one-fourth of A.'s mules were equal to one-third of C.'s mules. Find how many horses B. had, and how many mules C. had, after the sale.

12099. (Professor BARISIEN.)—Le lieu des points tels qu'en abaissant les quatre normales à une ellipse, la somme des carrés des six distances mutuelles des pieds des normales soit constante, est une conique. Dans quel cas ce lieu se compose-t-il de lignes droites?

12100. (Prof. MUIR, M.A., F.R.S.E.)—The roots of the quintic

$$\begin{vmatrix} x & a & b & c & d \\ d & x & a & b & c \\ c & d & x & a & b \\ b & c & d & x & a \\ a & b & c & d & x \end{vmatrix} = 0 \dots\dots\dots (1)$$

are known, as the circulant on the left is resolvable into linear factors. Taking any quintic $x^5 + \mu x^3 + \nu x^2 + \rho x + \sigma = 0 \dots\dots\dots (2)$, and equating coefficients of like powers of x in (1) and (2), eliminate b, c, d from the resulting four equations. [See *Analyst*, ix., p. 5; *Quar. Jour. Math.*, xviii., pp. 154-157, and p. 177, line 7.]

12101. (EDITOR.)—Find the chance that the resultant of two random forces in the same plane will be less than a given force a , the random forces being each less than a .

12102. (D. BIDDLE.)—Find the several dimensions of the cube, sphere, regular tetrahedron, and right cylinder, the sum of whose solid contents is a maximum, and each of which is taken from a distinct frustum (determined by planes parallel to the base) of a right cone of height h , and radius at base r .

12103. (R. TUCKER, M.A.)—A transversal DFE cuts the sides of the triangle ABC, viz., AC in E, AB in F, and CB produced in D. L, K are the escribed centres of BDF (to side BF) and AFE (to side FE); prove FLK a straight line. Again, O_2, O_3 are the in-centres of BDF, CED, and M is the ex-centre (to side AE) of AFE; prove $\Delta O_2 O_3 M$ to be of constant form.

12104. (M. BRIERLEY.)—It is required to find two rational numbers such that, adding twice the square of their sum to the square of their difference, the result shall be a square.

12105. (H. J. WOODALL, A.R.C.S.)—Criticize both mathematically and logically the statement that "Time is the succession of Ideas."

12106. (J. F. HUDSON, M.A.)—If x and y be any quantities, and n, p, q positive integers such that $n > p + q$, prove that

$$x^n y^q - n(x-1)^p(y-1)^q + \frac{n(n-1)}{2!}(x-2)^p(y-2)^q - \dots \equiv 0.$$

12107. (RUSTICUS.)—Write down the terms of A whose sum is the k th term of B, in

$$A = (a+b)^a (a+b)^b (a+b)^c \dots = (a+b)^{a+b+c+\dots} = (a+b)^s = B.$$

12108. (The Rev. J. BLISSARD.)—Prove that

$$\frac{\Delta^{20n}}{1 \cdot 2} - \frac{\Delta^{30n}}{2 \cdot 3} + \dots \pm \frac{\Delta^{n0n}}{(n-1)n} = n-1,$$

$$\frac{\Delta^{30n}}{1 \cdot 2 \cdot 3} - \frac{\Delta^{40n}}{2 \cdot 3 \cdot 4} + \dots - \frac{\Delta^{n0n}}{(n-2)(n-1)n} = 1 + (n-3)2^{n-2}, \text{ and so on.}$$

12109. (The late T. COTTERILL, M.A.)—(1) If capital letters denote points in space, A_1A_2 are harmonic conjugates to DA, B_1B_2 to DB , and C_1C_2 to DC , then the four pairs of planes such as $A_1B_1C_1$, and $A_2B_2C_2$ intersect in four lines in the plane ABC , and ABC is their diagonal triangle.

(2) The polar quadric of D to any cubic surface through D and any three such pairs of points as A_1A_2, B_1B_2, C_1C_2 , passes through $ABCD$. Explain what this becomes when A, B coincide, and when A, B, C coincide. What must be the nature of a surface of the n th order, that the same theorem may apply?

12110. (D. EDWARDS.)—Into an empty circular box, two counters are thrown at random. Prove that the chance that they lie wholly apart is $1/\pi \cdot \{\sin \beta (2 + \cos \beta) - \beta (1 + 2 \cos \beta)\}$, where β is the supplement of the angle subtended by either counter at the centre of the box, when placed in contact with its side, and $\beta > \frac{2}{3}\pi$.

12111. (R. A. ROBERTS, M.A.)—If u be a quadratic, and v a binary cubic, show that (1) if the skew invariant M vanishes, $u^3 + Kv^2 = 0$ will represent six points in involution; (2) if $u^3 + Kv^2$ has a square factor, K is determined by the equation

$$K^3D^2 + 2K^2(DR + 3I\Delta R - 8I^3) + K(R^2 + 6I\Delta R - 3I^2\Delta^2 + D\Delta^3) + \Delta^3R = 0;$$

(3) if $u^3 + Kv^2$ can have a cubic factor, $D\Delta^2 - 4\Delta I^2 - 4IR = 0$, the notation being that used at Art. 198 of SALMON'S *Higher Algebra*.

12112. (W. J. GREENSTREET, B.A.)—Prove that, whatever the law of force by which planets are retained in their circular orbits, the angle subtended at the Sun by two planets mutually stationary is

$$\cos^{-1} (au + bv) / (av + bu),$$

u, v being velocities of planets, a, b radii of their orbits. Show also, in the stationary position, they really recede from one another with a velocity

$$(v^2 - u^2)^{\frac{1}{2}} \{ (av - bu)^{\frac{1}{2}} / (av + bu)^{\frac{1}{2}} \}.$$

12113. (J. GRIFFITHS, M.A.)—Prove, *geometrically*, that the pedal triangles with respect to a given triangle ABC of a pair of points inverse to each other with regard to the circumcircle ABC are similar. [This theorem is of importance in the geometry of the triangle and circle.]

12114. (R. KNOWLES, B.A.)— PQ is a chord, normal at a fixed point P of a conic; XX' are the ends of a chord parallel to the tangent at P . Prove that (1) the locus of the centre of the circle PXX' is a straight line; (2) if this line meet the conic in YY' , P, Q, Y, Y' are concyclic.

12115. (R. W. D. CHRISTIE.)—With the usual notation of Enc. I. 47, prove that the following systems of lines are concurrent, and complete the cycle:—(1) KB, DH, AE . (2) AD, EG, FC . (3) DH, EG, NP . (4) AD, KB, QM .

[FC cuts AB in M ; and take $2AM = AN = AP = 2GQ$ measured on AB, AC, GF respectively.]

12116. (N'IMPORTE.)—A telegraph wire capable of sustaining a tension of a pounds, and weighing b pounds to the yard, is stretched, as tightly as is consistent with its not breaking, over a series of posts. The posts are generally equally distant from one another, c yards of wire hanging between every successive two; but, the telegraph having to cross a river which is more than c yards wide, a length of d yards of wire hangs between the posts on each bank. Show that, in order that these two posts may have no tendency to break, each must be inclined to the vertical at an angle equal to one-half of $\sin^{-1}(\frac{1}{2}bda^{-1}) - \sin^{-1}(\frac{1}{2}bca^{-1})$, the wire being supposed to be perfectly flexible, and the tops of all the posts to be in the same horizontal straight line.

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The Educational Times.

THE University of Oxford, in calling a Conference on Education, not in response to invitation or memorial, but of its own motion, has assumed its right relationship as head of the educational institutions of the country. It has for once shown a consciousness of the existence of other members, and has recognised the fact that the teaching profession is a kind of amphibious creature, having both head and tail, as well as intermediate organs, each of which has its own functions in relation to all the other parts. The tail is a useful member, and well serves the purpose, sometimes of a propeller, sometimes of a steering apparatus. But it may propel and steer to destruction unless directed by the head. As a similar remark will apply to all the members, a feeling of safety should be produced by the evidence that the head is in its right place, and means to exercise its natural functions.

It is no secret that it was Young Oxford which devised the Congress—Old Oxford acquiescing only on condition that no conclusion should be chronicled, lest the University should be compromised. “I will invite whom you like to luncheon,” said a head of a college, when consulted, “but you must not expect to see me at the Schools.” A few “heads” gave more hearty support as the arrangements progressed, and the late Master of Balliol, who at first met the suggestion with objections, afterwards undertook to read a paper on the Relation of the Universities to Secondary Education. Brief and unexplained fragments of the view he intended to put forth were read by Professor Jebb from letters he had received from the late Master, and this view seemed to be more radical than any other communication put before the Conference.

So it came about that the conditions were a compromise. Two sittings were to be held, of about three hours each, the thirty or more speakers at each sitting were to be impartially kept to the limits of time given, and no resolution of any kind was to be put to the meetings. It is evident, there-

fore, that it would be a mistake to look on the whole business too seriously. The meetings were light and cheerful, not heavy and monotonous.

Those who tried to compress an argument into five minutes, or to excite any fervent enthusiasm in it, learnt how small a piece of time this is. It was just enough, however, to enable spectators to discriminate between different temperaments. Three gentlemen, endowed with marvellous self-command, concluded before the gong arrested them; a few, more pachydermatous than the majority, disregarded the bell as long as possible; and two or three others, over-sensitive, collapsed at the signal as if shot, leaving the mangled remains of half sentences as their perorations.

Although no resolution was carried, it was easy to see that there was practical agreement in the Conference on several points. The problem to be solved appeared to many much more complex and difficult than they had supposed it while their view was limited to the sphere of their own work. Indeed, at the end, it seemed that the whole Conference suddenly awoke to a sense of the magnitude and complexity of the interests and issues involved. It was admitted, however, that opinion was ripe for an Act enforcing the Registration of Teachers; and it was also admitted that the County Councils, with the large purse entrusted to them, and the powers already conferred, might do much that is needed without waiting for new legislation. No one raised a single objection to the repeated statement of the need of a Minister of Education, of the responsible and representative Council of Education which is to assist him, or of the local boards which are to manage secondary education in each district, and on which there should be representatives of School Boards, Town or County Councils, and teachers. It was accepted, *nem. con.*, that both the central and local authorities should be composed in part of “persons specially qualified from educational experience to have the interest of education at heart.” The quotation is from Mr. Lyulph Stanley’s paper.

The feeling that inquiry should precede legislation was so strong that several attempts were made to circumvent the restriction imposed by the Vice-Chancellor, and to record this as the opinion of the Conference. Only one or two dissentient voices were heard feebly deprecating delay. The love of high speed in everything often causes unreasonable impatience to begrudge the time necessary for healthy growth and for experiment. Educational movements are proceeding with great impetus, and with growing acceleration, and much watchfulness is needed to keep them from leaving the lines of tried and settled principles. The ephemera which mature in a day die in a day, while the oak of a thousand years is, of all trees, slowest of growth. The error of ignoring the need of time for acquiring experience was exhibited in the Conference. The Welsh Intermediate Education Act was referred to as a model of assured success, although it has scarcely budded for its first blossom, and no one can say what its fruit will be. Except as a piece of legislation which was skilfully piloted through all the perils of the parliamentary quicksands, it is in no way a sure model for imitation, and time is necessary that it may be tried and tested before any just eulogium can be passed upon it.

Again, it was objected that Commissions usually content themselves with inquiring into and describing what exists, whereas, in this case, we want to know what ought to be in the future. The range of inquiry can, however, be settled

by the terms of the appointment, so as to include definite suggestions for future legislation.

The Conference, we feel sure, will not be fruitless. The hope is left that Young Oxford will not allow the University to fall again into apathy with regard to the subject of national education. Granted that the purpose of the Conference was to promote interchange and formation of opinions upon the problems of secondary education, it effectually accomplished its object, and has very widely rekindled the general interest in these problems. Many of the members, we are sure, have carried away with them the pleasant remembrance of cordial interchanges of greeting between persons previously known to one another only by name, and of the hearty hospitality of their hosts. None will regret having been present at so tolerant as well as so widely representative a gathering.

THE correspondence on College Entrance Scholarships which is now going on in the papers is painful reading. At a time when we have Oxford calling together delegates from all parts of England to settle the problems of secondary education, when we have Cambridge pleading for State aid in order that it may lecture the working-man, and when at both Universities there seems to be a pretty general feeling that it is their business to devise new systems of study and bring into existence new classes of students, the general public is suddenly brought face to face with the fact that the colleges are busily engaged in practices which all competent persons (including most college tutors) admit to be contrary to the best interests of education and learning. What is worse even than the present state of things, is the apparent conviction of many of those best qualified to speak that it will not be altered unless from outside. Mr. St. John Parry defends the action of Trinity, on the ground that even this most magnificent and wealthy of Cambridge foundations cannot afford to forget that "the public count heads"; and assuredly if Trinity can find its justification in this, every other college may shelter honourably enough under its example. One gentleman—Mr. Page, of the Charterhouse—suggests a boycott of the offending colleges; another, and he a headmaster of high reputation, actually thinks a Royal Commission would be necessary to remedy the abuse. Undoubtedly we shall have no Royal Commission, and no organized boycott, and we have equally little doubt—with all deference to a gentleman whom to know is to respect—that Trinity is perfectly well able to refuse to encourage any system of which it disapproves. But meanwhile may not the mere outsider—the member of the general public, in fact—point out, without discourtesy, to the Don that it would be well for him to set his own house in order before he gives himself up entirely to looking after his neighbours' affairs?

The object of a college, the end and aim of its existence—it is tacitly or explicitly assumed by the apologists and by not a few of the assailants—is to get as many "Firsts" in the Triposes and Schools as is possible; the "public count heads," and it is right and proper that a body of learned and high-minded men, whose life is largely study and culture and whose position is in no way dependent on the head-counters, should bow down before that "public." This being granted,

the rest is simple, easy, and natural. If your college is to reckon with any certainty on a large number of "Firsts," it must take care to get as many promising lads as possible. It can only attract them by offering baits as tempting as possible in the shape of scholarships, for we are to take it for granted that the headmaster is also trembling before the head-counter and the record-compiler; and it must exercise all its wits to get hold of them before any rival establishment snaps them up. It is not astonishing if cunning devices, such as those which the academic person is rather fond of imputing to "crammers" and private schools, find place here. Some colleges are rich and can give big sums; others can offer them and then regretfully inform the winner that he is only worth just half what they meant to give; others hesitate between A. at £40 and B. at £35, and finally decide that B. is the better investment, as being not absolutely £5 stupider; and nearly all now push back the dates of their examinations as far as possible, with the object of booking their boy long before he has left school.

If a boy gets a scholarship a year before he leaves school, that last year will as often as not be utterly misspent. And in that and in a kindred consideration lies the hope of a speedy remedy; even for the mere purpose of getting University honours, it will be found, we trust, that the enterprising dodges of rival touts do not "pay" in the long run. A. may be a much smarter boy at seventeen than B. is; but B. at one-and-twenty may just as likely as not be much the better man, especially if a precious year or eighteen months of youth have been loafed away by the former, and turned to advantage by the other. Yet we do not know that there is much solid ground for that hope; the purchasing of clever babies has helped many a school to cut a fine figure in the scholarship lists, and it is precisely on the same principle that the colleges are now working.

A Note on the
Chicago
Congress.

It is interesting to compare or contrast the Oxford Conference with the very remarkable Congress held at the World's Fair. The latter consisted of two parts, the first lasting from July 17th to July 26th, and arranged specially by the local committee of Chicago, the second continuing from July 25th to July 28th, and directed by the National Association of Education. The meetings took place morning, afternoon, and evening, commencing daily at 9 a.m., and not terminating at times before midnight. At Chicago all kinds of questions were considered. The entire field of education, in its principles, in its underlying psychology, and in its diverse applications, was discussed, and when published the record of the work of the Congress will constitute a veritable and colossal *encyclopédie pédagogique*. Mr. Barnard, the editor of the *American Journal of Education*, who was present, will soon see his own great work thrown into the shade. The questions discussed at Oxford were all of a limited and practical character. Those at Chicago were often of the most general and abstract kind, and the enormous gathering often applauded the vaguest sentiments, as for instance when Mrs. Charles Henriotin declared that "woman is the link between the child and the University." Though the Old World and New World gatherings were so different in many respects, the results are in both cases indirect rather than direct, and chiefly consist in the subjective effects on the members present of the contact with

thinkers and workers in all other parts of the educational field. These results are not to be despised—they are worth such a Congress to attain.

NOTES AND SUMMARY.

OF Bangor troubles, the end is, we much regret to say, not yet. As we write these lines the Governors of the College are holding their half-yearly meeting; on the agenda paper appear the following questions:—

“(1) Whether the attention of the Senate and College authorities was drawn by the late directors of the College Hall to the remarks and suggestion of the Lord High Chancellor in the House of Lords last session with reference to the College Hall? (2) Whether any, and if so, what steps have been taken by the Senate or College authorities towards carrying out the suggestion referred to, namely, that the Senate should reconsider the position it had taken up: and if not, why not?”

Meanwhile, Miss Frances Hughes has issued a pamphlet, “Reply to Principal Reichel,” in which she traverses many of the statements in his pamphlet. It is most unfortunate that this wordy warfare should continue, but we do not see that Miss Hughes can be blamed; that ample apology to her which the Chester Assizes and Lord Herschell showed to be her due, ought to have been made long ago.

* * *

WE are grieved to see that some remarks in our September issue on the statements made at the Chester Assizes have pained an estimable writer in the *Educational Review*. Miss Grace Toplis severely rebukes us for “keeping silence all these months when a helping word was needed.” We are afraid the writer can only plead that—being of the male sex—he did not see his way to pronouncing judgment on the facts until he knew them. That is at any rate why we could not admit comments on *ex parte* statements; and if the editor of our able contemporary had followed the same rule, we rather think Miss Grace Toplis’s previous well-meaning and misleading statements would not have appeared in print. Miss Toplis’s indiscretions were doubtless due mainly to kindness of heart and warmth of feeling; but perhaps she will allow us to urge in our defence that a mere man is not praised for exhibiting these admirable qualities at the expense of his judgment and common-sense.

FOR forty years or so Manchester New College has been located in London; now it has dropped the “New,” and settled—doubtless for good—in Oxford, where it may be classed with Keble and Mansfield (a curious pair) in that it is to be frequented by the holders of one particular set of religious views. It is true that the venerable and eloquent Dr. Martineau says that Manchester College is distinguished from all other institutions in respect to its treatment of theology, which is studied and taught there (he claims) with an unique freedom of opinion and belief; but as a matter of fact, it has always been in the past, as no doubt it will be in the future, the place of higher education for Unitarians, lay and clerical. It is a good thing for themselves, and surely a good thing for Oxford, that colleges such as these should no longer be restricted—or restrict themselves—to the necessarily narrow life and curriculum of an isolated institution with a small staff, but should have their share as equals in the best influences and the best teaching of the University. On a smaller scale, the Welsh sectarian colleges are likely to reap and confer similar advantages from migrating, as they are now doing, to the seats of the Welsh University Colleges.

* * *

THE origin of Manchester College dates well back into the last century, when it sprang up owing to the difficulties and disabilities under which nonconformists of all kinds laboured as far as educational matters were concerned. It was “Manchester Academy” in 1786, when it did the work of a mere school in most subjects, but provided “a full systematic education for divines.” The reason for this treatment of the curriculum is obvious. Students of law, medicine, arts, &c., could manage to perfect themselves elsewhere, but for the nonconforming theologian there were no facilities. In 1803 it moved from Manchester to York, but it returned to its native city in 1840, when it eagerly “affiliated” to the newly founded London University, which—like itself—owed its existence to the revolt against the tests enforced at Oxford and Cambridge. The competition of the well

endowed unsectarian Queen’s College, with no theological faculty, in Manchester, a few years later, somewhat embarrassed it; the British public had not (and has not) quite grasped the idea that a college with such a faculty could really be unsectarian, and the new institution accordingly prospered somewhat at the old one’s expense. With the ground thus cut away from under its feet, it wandered forth again, found its affinity in University College, London, and handed over its students to it for most subjects, retaining theology entirely in its hands. Its abode was fixed at University Hall—now the home of Mrs. Humphrey Ward’s disciples—and there ceased to be any reason why men should go to it except for divinity. From the moment of the abolition of the tests (1871) its supporters began to look longingly towards the old University, and four years ago they settled at Oxford in the rooms then just vacated by Mansfield. And now they are comfortably housed in a substantial building of their own facing Mansfield Road.

THOSE who oppose the training of teachers are sufficiently numerous to make it necessary for its supporters to be particularly cautious in the claims they advance on its behalf. Dr. Joseph Ogilvie, the newly appointed Lecturer in Education at Aberdeen University, would do well to realize this. The other day he compared the formal preparation of a teacher with that of a poet—the comparison does not seem a very happy one—and pointed out that the necessity of properly educating your young Milton (or Burns?) “has come to be recognised in the south.” This is how he established this somewhat remarkable “truth”:

“This truth has come to be recognised in the south. A Chair of Poetry at Oxford, which has been graced by men like Matthew Arnold and Edmund Gosse, exists for the purpose of fostering an interest in the Muse, and of bringing to light whatever latent poetical talent the undergraduate of that famous seat of learning may possess. If an education in poetry is possible, and is regarded as beneficial, much more beneficial must be an education in teaching, a subject of infinitely greater practical importance.”

We rather fancy it would startle most Oxonians to hear that the Chair of Poetry was meant to bring out their “latent poetical talent,” just about as much as it would surprise Mr. Gosse to learn that he had formerly occupied it. But neither statement is as amusing as the grave appraisal by this learned teachers’ teacher of the relative values of teaching and poetry.

THERE is little doubt that football is by far the most dangerous of the games commonly played by boys and young men. Yet there are few of us who would like to see it put down, and the Headmaster of Loretto, who has been a notable athlete in his day, is certainly not one of those few. Therefore the more attention is due to Dr. Almond’s protest against certain brutalizing and “gate-money” tendencies which he declares to be on the increase:—

“—the effect of recent legislation has been to make the game faster. Everything for pace and show-off, because crowds like a quick game, and dislike what is, to them, the tedium of the old honest scrummage game. The effect of this is that more boys and men are excluded from the game than used to be the case. Boys with a weakness of the heart are excluded because of its pace, men have to stop playing sooner, and take their place amongst a crowd of sightseers, who would be much better engaged in taking exercise of some kind themselves. I have often felt, and said, that if the game develops on its present lines any further, schools ought to have a Union and rules of their own.”

These remarks of his are called forth by the vigorous attempt now being made to put down “shin-guards.” The attack is based on the opportunities it gives those who wear them to take advantage of these safeguards to injure other players; but Dr. Almond’s opinion is (and he is supported by medical testimony) that some such protection is absolutely necessary as the game is played now.

WE regret to record the death, at the age of 36, of Mr. E. H. Prest, headmaster of Barnard Castle School, and formerly an assistant at Repton. Mr. Prest was the son of the late Archdeacon Prest, of Durham, and, like many other Durham Grammar School boys, distinguished himself greatly on the river. He took a second class in classics at Cambridge, was stroke of the Jesus boat for four years, and rowed in three Varsity crews.

“Dr. WILLIAM SMITH” was a name known literally “to every schoolboy” a few years ago. His was the first, as it was long the best, of the various symmetrical “series” of grammars and readers and histories written by scholars for learners. His

various dictionaries and other books were all carefully planned and well edited, and some of them were real additions to our works of erudition and the number of books indispensable to the student. The high level of the series showed no signs of sinking up till the very last; only last month we were reviewing in these columns Mr. Bury's "Roman Empire," which is fit to be compared with any of the other "Student's Manuals." It was as editor of the *Quarterly* rather than as author or scholar that Smith received the honour of knighthood. His long connexion with London University was only severed by his death, which occasions a vacancy in the Senate.

THE London School Board may be congratulated on the way in which it has settled the delegation-of-flogging question. The assistants pleaded that their authority suffered and the stick was ineffective, because of the delay and negotiation which intervened between crime and punishment; and the head teachers supported them, being only too anxious to get rid of the odium of being whippers-in-general. On the other hand, the incautionness of young and hot-tempered masters, and the indignation of Board school parents, had to be reckoned with. It was evident from the first that it would never do to allow every man his cane. But the Board has permitted head-teachers to "delegate the power of inflicting corporal punishment" in certain cases, and has not relieved them of their personal responsibility for the proper infliction thereof. And they have hedged the matter about so carefully that it does not seem as if any reasonable objection—except, possibly, on the part of the Board School boy—could be made to the arrangement.

THE feud between St. Andrews and Dundee is waxing very fierce indeed, and at recent meetings at each home of learning a good deal of quite inappropriate bitterness and heat was displayed. We fear that jealousy and fear are the cause of all the "bad blood." The "City of the Scarlet Gown" looks upon its step-child as far too encroaching, and the seat of the jute manufacture thinks the *injuncta noverca* is trying to keep all the privileges and prestige to itself. Family quarrels are always the fiercest, especially when—as here—there is money to be squabbled over. St. Andrews is bent at present upon opposing the Ordinance of the Commissioners which bears—as it thinks—too hardly upon her, and talks of going to law; and Dundee tells her politely that she hasn't a leg to stand on, and had much better be quiet. It is not an edifying quarrel; there is a good deal of human nature in professors squabbling over fees and rights.

It seems rather a pity that the election of Lord Rectors at the Scotch Universities is now nearly always "run" on political lines. The Caledonian students have a privilege which does not fall to the lot of their brothers in the South, in that they can confer upon a man, however distinguished, something that he himself regards as a great honour. When one remembers how deeply such a man as Carlyle was touched by the "lads'" recognition, we cannot help thinking they are losing a great opportunity when they get up caucuses, and make boyish political speeches, and canvass for votes, and go through all the dull grind of the serious middle-aged citizen in parliamentary election time. One of the candidates at Edinburgh is Lord Reay, whose knowledge of educational matters and University affairs alone would make him a very desirable Lord Rector; but he is the nominee of the Liberals, and the contest is being warmly fought out as a merely party matter.

THE 1894 programme of the Modern Language Holiday Courses for Teachers, arranged by Mr. J. J. Findlay, M.A., and his fellow-workers, is before us. There will be an elementary course at Caen in the Easter vacation, and elementary and advanced courses at Caen and Jena in July and August. The fees range from 30s. to £3, and the cost of residence is estimated at something under 30s. a week. Adding the cost of railway travelling, the amount spent on such a pleasant and instructive holiday is not enough to be beyond the means of the less wealthy of the profession. The report of the Jena course, held during the summer, seems to show that a good deal of useful work was done. An appeal is made for subscriptions in order that the operations of the Society may be extended.

Mr. R. A. SAMPSON, M.A., Fellow of St. John's College, Cambridge,

has been appointed Professor of Mathematics at the Newcastle College of Science, in succession to Dr. Garnett. Mr. Sampson was Third Wrangler (1888) and First Smith's Prizeman. Mr. C. M. Jessops, M.A., Fellow of Clare, has been appointed Lecturer in Mathematics at the same institution he was Eighth Wrangler in 1885.

* * *

Mr. J. F. YOUNG, B.A., late Scholar of Corpus, has been appointed Lecturer in Mathematics at the Technical Extension College recently opened at Exeter.

LORD MEATH, the President of the British College of Physical Education (92 Long Acre), desires to enlist public sympathy on behalf of the institution, whose objects are to improve the standard of physical training in the United Kingdom; to establish an institution where school teachers and others of either sex may be able to go through a course of instruction in the art of physical training, and may obtain certificates of proficiency; to raise the professional and social status of the teachers of physical exercises; to promote an organized system of physical education among all classes in Great Britain; and to give to physical education a more scientific organization and character.

WHAT is believed to be the largest audience ever gathered together in London, or probably in Great Britain, to listen to a scientific lecture, was to be seen recently in the Great Assembly Hall, Mile End Road. In connexion with the Gilechrist Educational Trust, Professor Sir Robert Ball discoursed on "Other Worlds," illustrating his subject with limelight pictures. The attendance, mostly of the working-classes, is said to have numbered about five thousand.

THE Clothworkers' Company has voted £25 to the Headmasters' Association for the special purpose of defraying the initial expenses attendant on their scheme of a national examination for awarding scholarships from public elementary to public secondary and technical schools. Under this scheme—already in operation, and adopted by the London Technical Board, by several counties and county boroughs, and by many governing bodies of endowed schools—a large number of valuable scholarships, in addition to the two hundred (one hundred to boys and one hundred to girls) offered by the London Technical Board, will be awarded on the results of the examination to be held in London on November 4th next. Particulars of the examination and conditions of tenure of the scholarships can be obtained of Hon. Secretary of the Headmasters' Association (Dr. Scott, Parmiter's School, Victoria Park, N.E.).

SERIOUS difficulties have arisen at Oxford with reference to the appointment of Professor Goudy, of Edinburgh, to the University Chair of Civil Law, in succession to Mr. Bryce. The emoluments of the chair by themselves are very meagre, and it has been usual for the authorities of All Souls College to supplement the deficiency by bestowing a fellowship on the incumbent; but the revenues of the College are, in common with its neighbours, so seriously reduced by the prevailing depression of the sources on which it relies, that this course has been found impossible, and I am informed that in these circumstances Professor Goudy may be compelled to reconsider his acceptance of the office. The same difficulty might not arise in the case of a civilian from either of the English Universities, as he would probably hold some other academic position of emolument which would make him independent of the shortcomings of the professorial stipend. The Fellows of All Souls are extremely anxious to avoid the slightest semblance of hostility to Mr. Goudy's appointment, and the state of their funds, like those of so many other colleges both at Oxford and Cambridge, renders retrenchment absolutely necessary.—*Glasgow Herald*.

THE LATE MASTER OF BALLIOL.

(BY AN OXONIAN.)

ON October 6th, seven Heads of Oxford colleges and the Headmaster of Eton paid the last tribute of friends and disciples in acting as pall-bearers at the burial of Dr. Jowett. It is already a month since he died, and almost every journal in the kingdom has made fitting acknowledgment of his life's work; but though Oxford's loss—rather England's loss, if there is ever realized the object to which the dead man directed his every effort—is already old, it will be long before the whole extent of that loss is fully weighed and measured. Rarely has one personality made itself so strongly felt in every greatest and smallest matter within the sphere of its activity. Alike upon the men and the methods of Oxford, Dr. Jowett's influence has worked ceaselessly for eight-and-fifty years. The men—the undergraduates, that is—change rapidly, and within the space of half a decade there will probably be left in Oxford as undergraduates not one of those whom he knew; but methods change more slowly—slowest of all when

they have been moulded by a mind to the purpose born, and later generations of undergraduates which knew him not will reap the profit of the good that lives after him.

Dr. Jowett was not an old man amongst Oxford men, for he was but seventy-six. Born in 1817 in Camberwell, he began his education at St. Paul's School, whence he went up to Balliol College in 1835. From that date until his death he became more and more identified with his college and with the University at large; the well-being of Balliol was the mainspring of his life, yet he sought to further it in such fashion as to carry with it the well-being of that entire body of which his own college was but one member. Honours fell thickly to him in his undergraduate days; he was made a fellow at the age of twenty-one, a tutor four years later. He was for some time bursar of his college, in which office he showed something of that tireless energy and that spirit of enterprise and innovation which were to make their influence felt far beyond the walls of Balliol. He had been a tutor but ten years when the death of Dr. Jenkyns left vacant the Mastership, but so well had he used his opportunities that his candidature for the vacant office was unsuccessful by only a single vote. Had his views upon theology and philosophy been less talked of—it would be wrong to say less understood—he would not have seen Dr. Scott preferred to himself. In 1855 Lord Palmerston appointed him to the Regius Professorship of Greek, and at length in 1870 the resignation of Dr. Scott left the Mastership to him almost as a matter of right. He filled the office of Vice-Chancellor for the customary four years in 1882-1886, and he filled it in a manner to win the admiration of the least friendly of his critics. Always an indefatigable worker, the strain of his manifold and frequently self-imposed duties as Vice-Chancellor told severely upon his strength. Indeed his will was too strong for his physique, and he died a victim to the stern sense of duty which urged him to the last to carry out his ideal of life, and to utilize to the full his manifold opportunities for furthering the interests of his college, his University, and his friends. There have been many evil things said of him, but no one has ventured to charge him with seeking interests of his own. His was a self that was fitted to direct and rule, and he knew it, as such men do, and sought scope for his capacities; but he employed them for the good of everyone but himself—he was the type of unselfish mastery.

The illustrated papers have made his features familiar to many who had never previously seen them, for his face was one of those which fix themselves upon the least retentive memories, and especially was it a notable face in Oxford amongst his colleagues in the University. Small of stature, and somewhat pursy of figure, he did not strike the bystander with any sense of dignity as he passed—"toddled" is the only word which fitly expresses his peculiar bearing—to his seat in chapel, or behind his mace-bearers to the duties of his office as Vice-Chancellor. But if once one saw the round, fresh-coloured, and clean-shaven face, beneath the spare silver hair, and caught a glance of the shrewd eyes that always sparkled with animation, one felt the power of the Master's mind at once, and understood the mingled affection and respect with which he was everywhere regarded. It was a child-like face—wonderfully and oddly so—in point of features, and it struck casual observers as curiously out of place amongst so many sterner and graver faces in the Sheldonian, faces "sicklied o'er with the pale cast of thought," lean enough to satisfy Shakespeare's idea of a student, or chubby with the peculiar chubbiness associated with "dons of the old school." But it was a winning face when it smiled, and even in repose it was still rather benevolent than stern; and if it carried with it an impression of self-satisfaction, it was the satisfaction of a man who wishes only to be written "as one who loves his fellow-men." His voice, too, was small and almost child-like, but what was lacking in volume was made up for by the measured dignity which attended it as a thing too valuable to be lightly used. It was ever rather the silence of the Master's voice, than its utterance, that was dreaded by his pupils.

Dr. Jowett was always looked upon as a leader amongst the Liberals of the University, a distinction which did not necessarily mean anything very formidable in so Conservative a circle. Looking back over the last forty years, one can see now how great were the changes which he worked, and one cannot wonder that he met with opposition; but it must not be forgotten that they are the changes of nearly half a century, and that, the process of alteration once begun, the opposition to it grew yearly less unreasoning and more amicable. *C'est le premier pas qui coûte*; the force of will which enabled the reformer to set the stone rolling is as notable as the restless energy, the tact, and

the determination which kept it moving to the last. Even in the early days, when but the youngest of the tutors in the University, he won the enthusiasm of his pupils, and the admiration of his colleagues, by his efforts to make his office something more than a name. His one desire was to put himself as it were *in loco parentis*: he refused merely to dole out a daily measure of wisdom to his flock, as though under the constraint of his position; but he would have his pupils look to him as a friend and a guide, who would give them all he had and ask in return no more than industry and effort—as one who gave "not grudgingly nor of necessity," but as a cheerful giver. He encouraged them to turn to him for help, and set no store by the many hours spent—often far into the night—in solving their doubts and difficulties, where many men would have resented the toil as an overcharge upon their lawful leisure. So on a larger scale, when appointed to the chair of Greek, he threw open his lectures to all alike, encouraged men of every stamp to attend them, and allowed no distinction between Balliol men and those of other colleges in his assiduous efforts to make the education of Oxford a living and productive thing. As time went on, he only grew, if anything, more industrious, and when Vice-Chancellor he looked forward to the expiry of his office that he might have the more time to devote to teaching. He did more than any other man to shame out of existence the old school of Dons whose methods were those of mechanical figure-heads requiring large outlays for their maintenance, and to replace them by the new school of which he was the chief and the most successful.

Yet his work amongst his immediate *alumni* was but the narrowest of his many lines of action on behalf of education at large. He was a leading figure in 1852, when the first Royal Commission was appointed to consider the methods and means of the University system, distinguishing himself by his bold denunciation of official extravagance, and his resolve to place the advantages of Oxford's teaching within reach of a wider field. It was then that the question of the Indian Civil Service was dealt with in relation to the University, and the movement owed much to the advocacy of Dr. Jowett. He laboured to remove all distinctions of class within the University, and not less all invincible distinctions of creed. It was he who did away with the "tuft" of the gentleman-commoner, and helped to open the degree of Bachelor to Dissenters, a measure which added fresh fuel to the ill-feeling aroused by his theological publications. The first of these, "A Commentary on the Epistles to the Thessalonians, Romans, and Galatians," appeared in 1854, and was followed five years later by the now almost forgotten essay included in Bishop Temple's once famous volume of "Essays and Reviews." Whatever we may think to-day of the matter of those writings, the advanced school of Biblical criticism has made us all familiar with modes of thought still more accentuated. It was otherwise in the days of the Oxford Controversy, and the old school, the Conservatives, made the question of orthodoxy the test-ground for a fierce attack upon the reforming tutor who was so conspicuous amongst the "Seven against Christ." The attack failed, and the scapegoat's orthodoxy was fully vindicated; and his persecutors did him more of a service than a damage when they succeeded in depriving him for several years of the salary attaching to the Regius Professorship, to which post, indeed, he is said to have been preferred largely on the strength of the promise shown in the unacceptable volume of "Pauline Epistles." It was not until nine years had passed that the Regius Professor at length received his due salary, and was again permitted to occupy the pulpit of Great St. Mary's, although he had meantime found greater charity outside the University, as, for instance, at the Church of St. Botolph's, Bishopsgate. Thenceforward he was recognised as one of the most original and most powerful of Oxford's preachers, and there were few Chapel services in Oxford better attended than those at which Dr. Jowett occupied the pulpit.

Persecution had not hurt him: it schooled him, perhaps, for from that time he abandoned theological writing, and devoted himself to Greek, and, amongst Greek authors, especially to Plato. By his translation of Plato's works he will be remembered longer than by any other of his achievements, and as long as ever Greek thought has any interest for English readers. Yet this translation, perfect as it is in point of style, and in point of scholarship as faultless as any work dealing with philosophical problems can be—there was never a syntax to satisfy all shades of philosophic thought—is but a fraction of what its author had hoped to do. He designed to edit the whole text of Plato in the most superb style, furnished with everything that learning and typography could do to make it perfect. The design was developed, improved,

recast, modified times and again, for to the very end Dr. Jowett looked forward to carrying it out in full with the collaboration of such scholars as Mr. Poste, Mr. Sellar, and Professor Lewis Campbell; but the labours of the scholar had to take a place subsidiary to that of the reformer, and were entirely absorbed in the further tasks of translating Aristotle's Politics and Thucydides. Such a result was only in accord with Dr. Jowett's aims: his aim was to popularize the University, and to extend its influence by placing its advantages within reach of ever-widening circles. With this object he threw it open to the unattached student, combated everything which tended to increase the costliness of the undergraduate's life, and rescued from threatened atrophy the system of Extension Lecturing, of which he was one of the most capable supporters and administrators. But his ambition went yet farther. Whatever was done to bring Oxford and the rest of England together, he recognised that there must still be many to whom an Oxford education of whatever sort must be an unattainable thing; and believing as he did that the most potent handmaid of education is the study of classical *thought*, he used his best efforts to place the flower of it within reach of all. All should be able to read how Plato and Thucydides thought, while the language which clothed their thoughts might and must remain the study of a limited number. In the same democratizing spirit, he took up actively the problems of secondary education. Destiny forbade his living to share in the late Conference on this subject at Oxford, but something may be gathered as to his hopes from the letters in which he had touched upon the matter. He looked forward to seeing the examinations and honours of his University thrown open to all, irrespective of residence. We may yet see his hopes realized in more or less degree, and we may think differently as to their merits and demerits; but we cannot but admire the spirit which prompted them and the determination which made the Master, when in his seventy-sixth year, as zealous a progressivist as he was forty years before.

It is impossible, within the limits of a short article, to express even a tithe of the manifold tasks which exercised his energies. The epigram which puts into his mouth the dictum, "What I don't know, isn't knowledge," is literally true as regards the University. Never did Vice-Chancellor labour so industriously and grasp so soundly every detail of his complicated duties. He it was first ventured to do what no one else had courage to attempt, in bringing order out of chaos in the Bodleian Library. To him was largely due the great scheme designed to obviate the almost annual flooding of the river above and below Oxford, and thereby to render the town more healthy. It was he whose labours made the Clarendon Press something more than the private press of a select society. And, to turn again to his own college, to him Balliol owed the speedy completion of the new buildings, the new hall, the great organ in the chapel, and the yet more valuable gift of an all-prevailing and unique *esprit de corps*, which brought with it success in every direction. It would be possible to give a complete list of those who have carried out into the world the abiding influence of their Master's mind, to lift them to distinction in every walk of life, but the task would be long indeed. In truth, so many of his pupils won honour and place, that the Master was accused of the deadly sins of jobbery and patronage. It was said that he hunted after lordlings, in order to use them as props to his little empire. So he did, but they were only the lordlings whose gifts promised to be worth cultivation, and side by side with them were always to be found at least as many disciples of humbler sort, but equal promise, destined by his aid to attain equal eminence. In not a few cases his private purse bore part of the cost of equipping those less fortunate in estate than in ability. He made it his first duty to become personally acquainted with each and all of the men of his college. Such as had it in them, he guided to useful posts in public life, while such as were not of the stuff whereof useful men are made, were at least encouraged to keep to the path of industry and clean living.

It was this personal contact with undergraduates of every sort which has furnished most of the innumerable anecdotes about him. He was himself no great conversationalist, but he was the prince of critics of that art, and his first rule was that the speaker should know what he was saying. He was ruthless in exposing mere loquacity, and, Socrates-like, he made not a few of his acquaintances smart by the incisive neatness wherewith he discomfited them. Kindest of men at heart, his rebukes only rankled where they wounded vanity, and vanity is the better for occasional bleeding. He was in one sense singularly narrow in his studies, never taking the trouble to follow up the results of modern science, and sneering even at the modern developments

of classical study in the direction of epigraphy, archæology, ethnology, &c.; yet he would talk with interest and with ability with one and all of their exponents, and the weekly Sunday dinner party at the Master's Lodge was attended by guests distinguished in the most diversified walks of science, art, literature, and politics. It is said that a raw undergraduate, a Harrow boy who prided himself on his acquaintance with *all* the Greek and Latin classics, meeting Dr. Jowett at such a gathering, sought to make himself agreeable by asking whether he had read sundry fragmentary *papyri* which had recently been deciphered. In three several and successive cases the Master quietly confessed himself as yet ignorant of the writings named. "Pray, Mr. Jowett, what on earth *have* you read?" was the apocryphal query. In most of the anecdotes with which Dr. Jowett is concerned, however, it is he who comes off best. While in his cradle, so the undergraduates maintain, he discomfited two argumentative divines with the monosyllabic comment "Bosh!"; and to the last he practised a similar pregnant brevity, and looked for it in his disciples. To an emulous but uncontent pupil, whose weekly essay considerably overran the usual fifteen minutes' limit, and was withal somewhat inflated, he suggested that a week's reflection might possibly produce something better than this which "has taken an hour to read—even with most of the h's omitted."

Many are there who remember that it was he who first caused them to think out the meaning of words on which they had never before bestowed a thought, for he had a positive hatred for all that was merely high-sounding and not practical. His ideal of life was the interweaving of knowledge and activity to the fullest measure of both, and his own life was the honest endeavour to realize his ideal. There is a legend that he once concluded a sermon on "money" with the remark, "the love of money is the root of all evil—and I advise you each to have something in the bank," a combination of abstract wisdom and practical common-sense which it would be hard to beat. With this specimen of his practical theology squares another story as to his doctrinal views. One of his pupils, in the course of a friendly conversation, went so far as to aver that he had been unable in any philosophy or creed to discover evidence for the existence of any God. The Master shut his lips in the dreaded *aposiopesis* which was the recognised calm prelude to the lightning. "Well, Mr. A—," he said at length, "I can only say that if you cannot find yourself a God before luncheon to-morrow, I must send you back to your friends." "All religions," he said on another occasion, "are identical in their bearing on right conduct; it is only in point of scientific explanations that they are different."

His advice to undergraduates was always given with a phenomenal insight into individual characters, and an unfailing memory for individual circumstances. It included, however, two prime articles: "Cultivate the art of conversation," and "Never regret; never explain; never apologize." His utterances have been declared rude and "absolutely devoid of wit"; but, that they were neither rude nor witless in their original shape we may gather from the simple fact that the Master had more friends than any of his compeers, and that, at least beyond the reach of theological bitterness, he had no enemies. In a hundred imperceptible ways his friendship worked for the good of his college and of Oxford, and of those who could call him a friend. It is said that he made Oxford a suburb of London: he brought her into touch also with every other centre whence there might come any influence for good alike in England and all quarters of the world. He desired her to produce "gentlemen," and to his mind a gentleman must be a cosmopolitan in the world of knowledge; and with this desire in view he toiled from first to last, not always with the same wisdom, perhaps, but always with the same honesty of resolve, to make broader and easier the path leading to the perfection of life as he conceived—and realized—it.

THE OXFORD CONFERENCE.

THE Conference on Secondary Education, convened by the University of Oxford, held its two sessions on the 10th and 11th of last month. The gathering was by far the most representative one ever brought together on this question. A list of the members would be, with very few alterations, a list of the most prominent educationalists of this country—every school of thought and every organization being represented directly or indirectly. Conspicuous, however, among the recipients of invitations which they were unable to accept, was the Department of Science and Art. The Vice-President of the Council was also absent, pleading the necessity of rest. In his letter of

apology, Mr. Acland called the attention of the Conference to the experiments now proceeding in Wales, in a tone of emphatic approval, which may perhaps be regarded as significant of the trend legislation in his hands would take.

The business of the two days was apportioned after the plan laid down by the President of Magdalen in his address to the Headmasters' Association. "There are," he then said, "two great fundamental questions with regard to secondary education. (1) What should be the curriculum of secondary schools? (2) What should be their government?" And the first session of the Conference was therefore assigned to ideals, to the consideration of the several components of a complete scheme of secondary education, while, on the second day, ways and means of obtaining the desired ends were discussed.

THE PLAN OF ORGANIZATION.

The Rev. G. C. BELL (Headmaster of Marlborough) read the opening paper of the first session.

The framers of the programme, he stated, appear to have adopted the classification of schools which was first introduced by the Schools Inquiry Commission's Report of 1868. Schools of the third, second, and first grade are there defined as being those in which education is to stop at about fourteen, sixteen, and eighteen or nineteen respectively. Schools of the third-grade are now, however, as a rule, primary or elementary schools; for it had been found by experience at Birmingham and elsewhere that the three-grade system cannot be successfully applied to secondary education, the higher elementary and third-grade school being practically indistinguishable. His own province was the first-grade school. He considered that many facts seem to show that the supply of first-grade boarding schools is sufficient for the needs of the country. A good many of the existing schools are fully or fairly supplied with pupils; but, even amongst the ninety schools which are represented at the Headmasters' Conference, not a few have difficulty in maintaining such numbers of boys as are requisite for the proper grading and organization of a first-grade school. And he could not handle this question of the supply of first-grade schools without calling attention to a fact which is being established by rapidly accumulating evidence, often of a very painful kind, viz., that the number of young men who qualify for and obtain a University education has already risen far above the number of professional careers open to them. With one exception, that of the ministry of religion, the professions, and the military and civil services, no longer offer enough openings to those who have fitted themselves to enter them. There was a danger in England, as in Germany, of creating what the Emperor William has called 'an academical proletariat.' In face of this great and increasing difficulty, it was plain that nothing should be done to stimulate further the supply of such higher-school education as is preparatory for professional life.

With regard to the question: Is legislation needed to improve the efficiency of first-grade schools? he considered that at present efficiency is adequately secured and maintained by the schemes by which most of them are governed; by the public examinations of many kinds to which these schools send up their pupils; by the incessant comparison, emulation, and competition, which results from these public tests of efficiency; and, in the case of the more important schools, by the keen interest taken in all their doings by the classes from which they draw their pupils. He would add that the first-grade boarding schools draw their pupils from all quarters, and are practically independent of local ties. No merely local authority would have any reasonable ground of interference with such schools as Eton, Winchester, or Wellington.

In conclusion, after a few words in favour of a University course, without the requirement of Greek, for the benefit of those destined for a commercial life, the Headmaster of Marlborough remarked that the course of recent discussion on secondary education had shown that what is chiefly wanted now is to connect more closely and more effectually the higher stages of elementary education with the lower and middle stages of secondary education; and that first-grade schools (though for the sake of completeness they are included in the programme of the Conference) are not the centre of chief interest at the present time.

In brief, he would have the first-grade schools left alone, as outside the sphere of the proposed organization.

Dr. PERCIVAL (Headmaster of Rugby), however, protested against the conception that the "first-grade school is to be regarded as a kind of luxury, the monopoly of the few." "Reform, adapt, invigorate," said Dr. Percival. "No system can be regarded as satisfactory which leaves whole districts of the country without access to efficient schools of the first-grade." With regard to the relation of the first-grade schools to the University, he made two chief suggestions. One was that premature specialization is overmuch encouraged by entrance scholarships at the Universities, being almost invariably offered in some single department of knowledge. The second his belief, already expressed on more than occasion, that boys destined for commercial careers would receive a better and more liberal education as their equipment for life, if such disciplinary and

other arrangements were made by colleges as would justify us in recommending that they should leave school at sixteen or seventeen, so as to take the degree of B.A. about the ages of nineteen or twenty.

The Rev. E. F. M. MACCARTHY (Headmaster of King Edward's Grammar School, Five Ways, Birmingham) then took up the case of the second-grade schools; that is to say, those attended by pupils up to about the age of sixteen.

We have, he stated, three ideals, at work, more or less, side by side. In the first place is that of the School Boards, with their continuation or finishing schools to the ordinary elementary school. It is the only one which realizes the continuity of education from the rudiments. The ideal of a County Council is a school which, whether having an industrial "side," or a commercial "side," or both, rigidly excludes (as it must do by the Act of Parliament determining its functions) the literary and humanistic side of education. As regards elementary education it is more or less "in the air." The ideal of the governing body of an endowed school is largely inherited from their predecessors from the sixteenth and seventeenth centuries downwards, but, when influenced by the advanced thought of the nineteenth century, it aims at the best intellectual training for those whose school life ends at sixteen or seventeen, having regard at the same time to the occupations for which they are destined. It assumes a certain elementary knowledge, and takes no cognisance of its source.

Where a place is populous and wealthy enough to enable each kind of secondary school to flourish, the higher-grade Board school, the County Council technical school, and the endowed grammar school may profitably exist in the same area. But in many cases only one type of second-grade school is possible, and the problem confronting us is the adaptation of this to the extremely variable requirements it has then to meet.

There is first the *pupil from the elementary school*, promoted by scholarship or prompted by social considerations to "finish" at the second-grade school. In spite of the tacit assumption of local authorities to the contrary, such a pupil will not find that his education is carried forward in a second-grade school by a due graduation from the point up to which it was brought in the public elementary school. The second grade is not a natural continuation of the elementary course.

The only exception to this sweeping statement will be found in the case—at the present time of extremely rare occurrence—where such a child is admitted into a second-grade school at about *nine*; on an examination equivalent practically to Standard III. of the Elementary Education Code. If the *lowest* class of the second-grade school makes that standard its point of departure, the pupil entering at that age will at once start on the *wider* curriculum natural to a second-grade school which reckons on six or seven years of school-life before its pupils; and his range of subjects will slowly expand—French, Latin, elementary science, mathematics, German, will be taken up, each new subject being unfolded gradually, so as to secure to him a definite intellectual training by the time he reaches the leaving age. In such a case the educational continuity is perfect.

But, if the pupil leave the public elementary school at *ten* years of age (Standard IV.), and enter the second-grade school, he is placed (as he should be) in the class corresponding to his age, and passes at once from the range (and methods) of Standard IV. work in the public elementary school to the range (and methods) of a class in a second-grade school one or two classes higher than the lowest. Entering here, he finds himself among schoolfellows who have been educated during the previous year on quite other lines to himself; who have made probably a start in Latin or French, or both; who have been taught some English history, of which he knows next to nothing; and who have been through an entirely different course in English and geography to that required by H.M. Inspector. Consequently, he is all at sea. The continuity of his education has been broken, though his entrance into the second-grade school has been delayed but one year from the normal age of the lowest class. Obviously this breach of continuity is the wider for every additional year his entrance into the second-grade school is postponed; and, as a matter of practice, it may be put off until eleven, twelve, thirteen, or even fourteen years of age.

Then next comes the problem of what to do with County Council scholars in the second-grade school. The addition of technical work, as other second-grade schoolmasters witness, has seriously cut up what may be called proper school work—it has ruined the curriculum. The Science and Art Department has also done much to foster new subjects by its system of grants, leading at last to such arrangements as one finds in a typical borough endowed school, where two time-tables are in force during the year; one from January to May, having for its object "to keep general subjects steadily moving, but to *press forward the science and art side*;" the other from June to December, in which the object is "to keep the science and art side slowly moving, and to *press on the general work*" for the proper scholastic examinations.

In view of these and other considerations, Mr. MacCarthy suggested that, to make the second-grade school as nearly as possible a continuation to the elementary schools, the "obligatory and class subjects" corresponding to Standard III. of the Code should be the standard of attainments required of *all* candidates for admission. No pupil should be admitted to a second-grade school after reaching his thirteenth birthday,

unless he shows a range of knowledge enabling him to take a place in the school corresponding to his age. Scholarships and exhibitions from public elementary schools should be limited to pupils under thirteen. A second-grade school, moreover, except when regularly organized as a technical school, or when large enough to have a technical "side," should not be treated as part of the national machinery for technical education of an "industrial" character. Higher grade elementary schools should be established by School Boards as primary technical schools in continuation of ordinary public elementary schools, and intermediate between them and secondary technical schools. And secondary technical education should be provided by special schools, and not in the ordinary secondary schools at all.

Following Mr. MacCarthy, Mrs. Bryant outlined a scheme for the secondary education of girls. Her paper served to point out how entirely more simple is the organization of feminine education in this country. The elementary, second-grade, and higher grade schools form a series of class schools, of which the latter culminates in the University. The relative absence of scholarships, and the comparative uniformity of the destiny of the pupils, eliminate most of the problems of permutations that render the organization of the education of boys so difficult.

Mr. WYATT (Clerk to the Manchester School Board), in a paper on "Higher Grade Schools," showed how these schools had their origin in the necessity of providing for the retention in school of the most intelligent children who had passed through the upper standards of the elementary school at a comparatively early age. They had, however, up to the present been only indirectly recognised by the Education Department, and had to depend largely for maintenance on South Kensington grants. He advocated the further recognition of these schools by the Government, and urged that their more general establishment would provide a natural bridge between the primary and secondary schools of the country, and at the same time give scope for the advancement for the best teachers in the elementary schools. He remarked on "the tremendous depletion of our primary schools which goes on immediately the standards for exemption from compulsory school attendance have been passed"—only 3 per cent. of the children on the registers being between thirteen and fourteen years of age, while only 2 per cent. were examined in Standard VII. It was not very apparent how these facts supported Mr. Wyatt's contention that the multiplication of these higher grade schools in some parts of the country was not an encroachment on the province of secondary education.

Mr. H. M. DRAPER (of Heinel Hempstead) read a paper on Preparatory Schools for the Upper Grades of Secondary Schools.

The PRESIDENT of MAGDALEN read a paper on "The Relation between Secondary Schools and the Universities," the subject which the late Master of Balliol was to have taken up. He described the prime needs of secondary schools to be a good curriculum, good masters, and good managers; and on these the Universities exercised an influence both direct and indirect. They set up in the first place a lofty ideal of learning, or "science." They ought in the second place to train the teachers, through whom the influence of a truly liberal education should penetrate and pervade every school in the land, and the teachers should also be trained in a special and technical sense. With regard to the management of the schools, he believed that some system of a central council and sub-councils would be adopted, on each of which the Universities would be represented, and in this way might be brought into living and liberalizing contact with the general scheme of secondary education.

Professor JEBB concluded the opening series of papers by discussing the relation of the Universities to secondary education in very general terms:—

"That the Universities may reasonably look forward to having some share in moulding the future of secondary education, seems clear; their claim rests partly on the proved value of work already done by them, and partly on the fact that they stand alone in the nature of the influence which they could exert. On the other hand they could not undertake an administrative control for which they have not the means. The utmost that could be expected is that on any new Boards entrusted with the control of secondary education the Universities should have representatives, through whom they might have continuous knowledge of its condition, progress, and needs. How far such representation might suffice to make the influence of the Universities effective, would depend on the details of the plan, and could be proved only by trial; but it is not difficult to indicate the direction in which such influence might be valuable. Under any comprehensive system there would probably be certain dangers, against which the traditions of the Universities would incline them to guard. One danger would be that of stereotyping. Nothing is more important, in the true interests of secondary education, than to

preserve as far as possible the independence of teachers and the individuality of schools. Another danger would be that the local control of secondary education should fall too much into the hands of persons whose educational experience was limited, or whose views were too narrow. And a third danger, not the least serious, would be that which might threaten the private schools, if they had to compete at a disadvantage with schools receiving grants from the State. The importance and extent of the educational work in England which is due to private enterprise was well brought out, at the Conference of the Teachers' Guild in April last, by the Headmaster of Haileybury. In view of such possible dangers, the value of University intervention would be that of a tempering influence, favourable to all reasonable elasticity and freedom, acting in the light of a large and varied educational experience, and vigilant to avert the extinction, under a too rigid system, of any element which had proved really beneficial and fruitful.

The discussion that followed the reading of the papers was of a somewhat miscellaneous character; but, on the whole, the five minutes' limit compelled each speaker to address himself to some definite point that had been raised in the papers. It may be conveniently summarized under heads, as follows:—

Higher Grade Schools.

Dr. FITCH did not believe that the higher grade Board schools were encroaching on the province of true secondary education, but were essentially continuation schools for the pupils who had passed through the elementary schools. In France such a school was called an *école primaire supérieure*, and was only open to the holders of leaving certificates from the primary schools. The programme of studies in the French schools was divided into two distinct parts, comprising general literature in the morning and technical subjects in the afternoon; the former being virtually regarded as introductory to the latter. He thought it would be very desirable that the word "grade" should be dropped in this relation, seeing that the gradation was in no way indicative of social divisions.

The BISHOP of LONDON was of opinion that the higher grade Board schools did encroach on the province of secondary education. Dr. Fitch had not given an account of an English school, but of a French school, and he (the Bishop) hoped that higher grade primary education in this country would tend to approximate to that type.

Canon LEWIS stated that in Nottingham there were already five higher grade schools giving practically free education, mainly with the object of fitting the children for commercial life, and consequently commercial subjects were largely represented in the curriculum, while the teaching of science was provided for by peripatetic lecturers. Scholarships were provided for passing on children from these higher grade schools to the Nottingham University College. What was required was that these schools should be more definitely recognised by the Government, and that provision should be made for assisting them on a larger scale, and more regularly and permanently, than by the money that could be earned on the results of the Science and Art Examinations.

Miss BLACKMORE (Headmistress of the Roan School, Greenwich) said that the opening of higher grade Board schools had in many cases injuriously affected existing secondary schools, and in some places had destroyed them. Endowed schools and private schools were equally cut down by the competition of schools offering the same kind of education at nominal fees. The effect of the extension of the scholarship system would be that numbers of children of the middle class would flock into the Board schools in order to secure free secondary education, and the provision of free education all round would only be a question of time.

Mr. BINGOOD (representative of the Association of Headmasters of Higher Grade Board Schools) said it was no doubt the case that these higher grade Board schools were taking away pupils from the grammar schools; but the reason for this was chiefly to be found in the conviction that a more specialized course of instruction than the schemes of those schools afforded was necessary to equip the rising generation for the ever keener competition of business life.

Mr. KING (Headmaster of the Manchester Grammar School) said that in Manchester able boys from elementary schools used formerly to come freely to the grammar school, but the supply of these scholars had practically ceased, and in this respect the educational ladder was less of a ladder than it was ten or fifteen years ago.

Mr. SCORSON (Headmaster of the Manchester Central Higher Grade School) said this was readily to be accounted for by the prevalent opinion among those most concerned that the curriculum of the latter was better adapted than that of the former to meet the needs of the working population at a great commercial centre.

Scholarships from Elementary Schools.

Mr. F. W. WALKER (High Master of St. Paul's School) affirmed that the most urgent need in modern secondary education was not so much the multiplication of types, as the preservation of existing diversities. His own experience as a headmaster had been solely in the day schools of cities. Our modern educational reformers seemed to regard classical day schools of this class as mischievous survivals which ought to be suppressed. Their aim was to transform secondary grammar schools into non-Greek and little-Latin schools. His own school had narrowly escaped being revolutionized by the introduction into it of a large

proportion of School Board free scholars; other grammar schools had not escaped.

Mr. F. E. KITCHENER (County Councillor, and formerly Headmaster of the Newcastle-under-Lyme Grammar School) thought that Mr. MacCarthy had exaggerated the difficulties of the case with regard to Board school scholarships. He was of opinion that a right selection could not be made at a very early age—under thirteen—as had been suggested. In schools where there was a separate classification for separate subjects, on the plan of University College School, there would be little or no difficulty in placing the scholarship-holders, and dislocation could be reduced to a negligible minimum.

Technical Instruction and the Universities.

Principal RENDALL (Vice-Chancellor of the Victoria University) remarked that the connexion of the Universities with technical instruction had been ignored in the papers read; and he thought that it would be nothing less than an educational disaster if the teaching of practical science were to be cut off from the Universities, where the training was mainly humanistic. The teaching of science might be either educative, in the proper sense of the term, or utilitarian. If it were left to the County Councils it was to be feared that narrow and short-sighted methods would be followed. It was the fact that the older Universities were dissociated by geographical position from technical pursuits; and, moreover, within the University there was no centre of teaching common to all the colleges. Co-ordination was wanted here, such as had been carried out effectively in the case of the medical faculty.

Mr. HATTON (Director of Studies of the People's Palace) doubted whether the science teaching at the Universities was of such a character as to attract students who had been trained in schools where science occupied the chief place. There was next to no technical training to be got at the Universities, and proposals for its introduction had not been received with any marked favour by the University authorities. He pleaded for a more real and thorough plan of University extension than that which at present obtained, and for the further encouragement of science teaching suited to the needs of our manufacturing population.

An Educational Adulteration Act.

The Rev. C. G. GULL (Headmaster of the Grocers' School, Hackney) asserted that what was wanted was free trade in education, accompanied by an efficient "Adulteration Act," which would shut up those private adventure schools which were found not to carry out honestly the professions of their prospectuses.

THE QUESTION OF CONTROL.

The second session of the Conference was devoted mainly to the discussion of the constitution of controlling bodies. Local authorities were first considered, then the relationship of teachers to control, and finally the central powers, the Government and the Universities.

Mr. H. HOBHOUSE, M.P., took up the case of the County Councils, appealing to the fact that they are already charged with technical instruction, and through that had been brought into touch with many secondary schools. He proposed to constitute, in counties, committees appointed by the Council, while in large towns, joint committees should be formed with the School Boards. He asserted that legislation to check the over-development of the technical side, was becoming urgently necessary, as was also the assurance of the permanence of educational expenditure. A parliamentary inquiry, to sift conflicting views, was desirable, if any satisfactory settlement was to be obtained.

The Hon. LYULPH STANLEY, in a paper on "The Place of School Boards in the Organization of Secondary Education," advocated the constitution of special Boards, as he considered the composition of School Boards would have to be reformed before they could be charged with secondary education. But in order to secure due co-ordination between primary and secondary, to prevent undue overlapping, and to obviate conflicts which had actually arisen in some places between School Boards and Town Councils, it would be necessary that the former should be properly represented on the special Boards. The local authority should be largely representative and popular, but not wholly so; and he suggested a threefold composition made up equally of representatives of School Boards (other than parochial ones), members of Town or County Councils, and nominees of the State.

The DEAN OF MANCHESTER, in his paper on "Special District Boards," agreed with Mr. Lyulph Stanley in the demand for special Boards, but considered that they should be elected directly and not selected by other bodies. He also insisted on the need of a special Ministry of Education. "It should be able to advise local authorities, to aid them by its knowledge, to stimulate them when inert, to act as a directing and controlling influence, and to serve as a court of appeal when differences arise on educational matters. So much and no less for a central authority."

Mr. A. SIDGWICK, in his paper on "The Services which could be rendered to Secondary Education in England by Teachers in Public and Private Schools," assumed that any scheme of legislation would be preceded by full inquiry; that there would be two classes of authorities, local and central; that the profession of teaching ought to be adequately represented on both; that the training of teachers for secondary schools must be taken in hand; and finally, that the voice of the private schools must be heard, no less than that of the richer and more permanent foundations which are under some sort of public control. Each of these positions was supported by very cogent reasons, with all the lucidity and literary skill of which Mr. Sidgwick is a master.

Mr. YOXALL (representing the N.U.T.) contested the popular prejudice that schoolmasters were unbusinesslike, and pointed out the many disadvantages of the exclusion of elementary teachers from the management of their schools.

THE BISHOP OF LONDON, in his concluding address, urged that one of the greatest services that the Government could render to the cause of education generally, and particularly to the cause of secondary education, would be to make themselves and the country at large thoroughly acquainted with all the facts of the case, and to put these facts into such a systematised form as to enable the public to form a reasonable opinion upon the whole matter before proceeding to legislation. Did not the conditions of the Conference forbid such a course, he would have moved a resolution to the effect that inquiry should precede legislation. The inquiry made more than twenty years ago by Lord Taunton's Commission only had regard to secondary education indirectly; its main purpose being to ascertain how best to use the existing endowed schools. A great deal had happened since that time, and if they were to use that report as a basis for legislation, it ought to be brought up to date. There had been changes in the feeling of the country at large on the matter. There had also been a great deal of information acquired which at that time was not before it. All these new facts required to be carefully looked into. There had been legislation before upon primary schools, and upon the large public schools, and in both these cases the legislation was preceded almost immediately by very careful examination by Royal Commission; and he did not think they ought to enter upon legislation for secondary education without thoroughly knowing what they were doing. He thought that such an inquiry should be by a Royal Commission rather than by a Select Committee of the House of Commons. There they had a Bill before them, and this fact tied their hands very much in the inquiry they had to make. He wished that all the various bodies represented at the Conference would separately, if not conjointly, petition the Government to stay their hands in legislation until such a Commission should have reported. He thoroughly concurred with Mr. Sidgwick, that in any organization of secondary education it was of the utmost importance that the teachers should have not merely a consultative but a decisive voice in settling what was to be done. He also considered that the parents of the scholars should be consulted. With regard to the relation of the Universities to secondary education, the best work they could do they were already doing, by extension schemes, by the inspection of schools, and by local examinations. But a great deal more of the same kind might still be expected from them. It would be well that they should be distinctly and largely represented on administrative councils, because it is better that those who must interfere indirectly should have the power of representing their views to whatever central governing body might be constituted, and of bringing that indirect influence into harmony with the general working of the whole scheme.

The discussion that followed covered a wider range of subjects than that of the first session. It may be grouped under the following heads:—

County Councils.

Dr. HEWITT (representative of the County Councils Association) said it appeared that the County Councils were somewhat unpopular with educationists. This, he thought, was most unreasonable. The County Councils had had this honour thrust upon them. They had large funds to administer, and had devoted those funds to the cause of education when they might have devoted them to the relief of the rates. He claimed that the County Councils had done their duty, and they could have done more for the cause of education had they been allowed a freer hand. The Cheshire Council had visited the ancient grammar schools in that county, and with few exceptions it was found that they were deficient in buildings, teaching staff, and apparatus, and it was only with great difficulty, and by treading most carefully on the edge of an

Act of Parliament, that they could assist those grammar schools to give an efficient education. He asserted that they had the facts fully before them, and he hoped that the Government would proceed to legislation without waiting for the report of a Commission.

Dr. POOLE (Chairman of the Headmasters' Association) said there prevailed a widespread mistrust as to County Councils having too much to do with the management of secondary education. He did not consider it desirable for general secondary education to be added to the work of technical education, and it would be better that the needs of the two kinds should be kept at present entirely separate, and not be provided for by the same body.

Mr. T. SNAPE, M.P., remarked on the difficulties experienced by the County Council in the distribution of the funds placed at their disposal. In Lancashire alone the sum of £7000 a year was applied to provide scholarships from elementary to advanced schools, and the greatest difficulty was experienced in finding a sufficient number of candidates to compete for them. He entirely approved the Bishop of London's suggestion for the appointment of a Royal Commission, and he would heartily have supported a resolution to that effect, had it been possible to bring one forward.

Mr. C. T. D. AGLAND (Devonshire County Council) endorsed the views expressed by Dr. Hewitt. The one great difficulty that the Technical Instruction Committees had to cope with was the dearth of proper teachers, and they had, in fact, to rely on the public elementary teachers to do the work. The Universities should take up the work of training secondary teachers. He endorsed the proposal for the appointment of a Royal Commission. The registration of teachers was a work that might be taken in hand at once.

Miss COOPER (representative of the Headmistresses' Association) thought that local authorities should have a large share in the work of organization, as they had shown that they were ready to attack the problem in a sensible spirit. The municipal element must certainly be preserved, and she hoped that experts would be represented in a large measure, also the School Board element in some measure, but not so strongly as some would have it. One danger that could not be too carefully guarded against in the constitution of a central body, would be that such a body should not have the control of too many details, but should be legislative rather than administrative in its functions.

Mr. MACAN (Organizing Secretary of the Surrey County Council) remarked that the question of local administration was not wholly an educational one. The Local Government Act, which established the County Councils, involved the concentration of powers which had previously been exercised by different bodies; and were they now to proceed to set up a new and rival authority to take over part of their work? He contended that there were to be found on the County Councils the very best men in their respective districts, who were fully capable of dealing with the question of the adequate supply of secondary education suited to local conditions.

Lord EDMOND FITZMAURICE said that in the earliest days of the discussion of the organization of our national education, one of the greatest authorities (the late Sir James Kay Shuttleworth) said that County Councils would be the bodies best able to deal with the subject. It was not generally known that the Charity Commissioners, in the schemes which they from time to time issue or sanction, were now making it possible for a school to receive aid from the County Councils. He emphasized what Dr. Hewitt had said as to the extreme local difficulties under which the Councils were carrying on their work. If any resolutions could have been adopted by the Conference, he would have hoped that some strong representation would have been made to the Government on the desirability of putting legislation into some more orderly shape than it at present possessed.

The Training of Teachers.

Dr. FITCH said that, in addition to the services which the Universities had always rendered to secondary education, there was one other service they could render, viz., providing for the training and equipment of teachers for their profession. The Universities had liberalized and ennobled the higher professions by their schools of divinity, law, and medicine; they had also provided for technical subjects, such as engineering, &c. Why should they not establish schools of didactic pedagogy? Large numbers of students left the Universities every year in order to become teachers; why should they not look to their *alma mater* to supply them at least with theoretical equipment for their calling by means of a post-graduation course of training? The recognition, in this way, of teaching as one of the liberal professions would in itself be a great public benefit, by raising the professional status of the teacher.

Mr. OSCAR BROWNING said there were two ways in which the Universities might be useful: viz., the training of teachers, and the inspection of schools. Training colleges had been founded both at Oxford and Cambridge, and teachers had confidence in the kind of training that was to be obtained there. With regard to the inspection of schools, he would like to see in England the kind of inspection they had in Germany, not merely sending a man down to see what a school was doing, but the institution of a leading examination which would tell both the heads of the school and also the parents whether the children had attained a satisfactory standard.

Mr. MACNAMARA (representative of the N.U.T.) did not see the necessity of having the secondary teachers trained in establishments of

a different kind to those provided for the training of the primary teachers. The method of apprenticeship prevailing in the elementary schools supplied all that was required with regard to the practice of teaching; and the *pedagogic* part of the training might, he considered, be very well given to all classes of teachers under the same roof.

Representation of Teachers on Educational Councils.

Dr. WORMELL (Headmaster of the Central Foundation School, London), in supporting the views advocated by Mr. Sidgwick and Mr. Yoxall, said that neither a miracle nor a revolution was needed for secondary education. It was not so absolutely without order as some had asserted it to be. Of late years many links or bonds of connexion had grown up between different classes of schools. These bonds should be added to, and the means for greater efficiency supplied. It appeared that two kinds of authority were proposed to be called into existence, the local and the central, the former having an administrative work to do, which the County Councils, as at present constituted, were not qualified to perform. The County Councils were the right bodies to obtain the funds for building new schools or assisting existing ones; but the advising Board or Committee should consist only in part of nominees of these Councils. It was inevitable that teachers would be placed on such Local Boards, and representatives of the Universities should always have a place on each. To this arrangement we were accustomed through the schemes of the Charity Commissioners. But in addition there should be elected representatives of the teachers of the district—a new and most important point. And there should, in addition, be on the Local Board one member at least who had an intimate knowledge of the institutions of the district, and of educational principles generally. His whole time would be wanted, and he must needs be well paid. The appointment of such an expert had, in fact, been recommended by Lord Taunton's Commission. Very probably the salaried nominee of the Crown would prove to be an ex-teacher. Thus it might be expected that by different routes teachers would obtain seats on Local Boards for Secondary Education.

The Registration of Teachers.

Sir RICHARD TEMPLE said it appeared to him that the Conference had not given attention to the possible outcome of the proposed legislation, which would, he thought, ultimately result in the provision of free secondary education, as was now the case with primary education. When the State first began in this country to set about the organization of elementary education, it began by securing the efficiency of the teachers in the national elementary schools, by aiding in the establishment of training colleges where they might be equipped for their work. This was long prior to the Act of 1870, by which provision was made for the building and maintenance of primary schools out of the rates. Would it not be wise to proceed on similar lines in organizing our secondary education? The question of the registration of teachers had now been before the public for thirty years; registration was demanded by the great majority of the teachers themselves. A Bill for effecting this object was brought in fourteen years ago; during the past three years two separate Bills had been before Parliament, and the principle of registration had been affirmed by their second reading. In 1892 a Select Committee had sat on these two Bills, and on the basis of their report new Bills for the registration of teachers had been brought in, which now were awaiting discussion.

A Royal Commission of Inquiry.

Canon DANIEL (Principal of the Batterssea Training College) said the first impression that most would derive from the Conference would be as to the chaotic condition of opinion on secondary education; and the question they had to consider was how cosmos was to be evolved out of the chaos. The first and most important means to this end was, he conceived, the institution of a Commission of Inquiry. The subjects of such inquiry would naturally include (1) what kinds of schools were wanted, (2) the places where they were wanted, and (3) the provision of the means for their establishment and maintenance. He hoped that in such an inquiry the Commissioners would mainly be concerned with those districts in which the required schools did not already exist; that they would not treat the field of inquiry as a *tabula rasa* on which entirely new foundations were to be laid, and new structures erected; but would direct their attention to the way in which existing agencies, that were doing good work, might be improved and supplemented. Otherwise there would inevitably be great waste of public money, and the cause of education would suffer.

The DEAN OF ST. PAUL'S said the first requisite was that they should be fully informed as to the conditions of the problem with which they had to deal; and more particularly with regard to the large class of private adventure schools, many of which would, he believed, be found fully able to supply what was needed. An inquiry by Royal Commission he regarded as an essential preliminary to the success of subsequent legislation; and certain failure would ensue if it was attempted to ride roughshod over existing arrangements, and disregard all considerations of fairness and justice in the treatment of existing schools.

Dr. POOLE (Chairman of the Headmasters' Association) suggested that, as no resolutions were to be proposed at this meeting, the Vice-Chancellor of the University might communicate with the Government in an informal manner, or that one of the Members of Parliament present might take it upon himself to move for a Royal Commission, and that the Associations there represented might pass resolutions and forward

them to the Vice-Chancellor or to the Secretaries of the Conference. With regard to the management of such secondary schools as might have to be supplied in consequence of the passing of an Act, two points would have to be carefully guarded: (1) That those who governed the schools should have a local interest and understand local needs, and should have a certain amount of knowledge of educational matters in general, and (2) that there should be some central body which should be able to revise, if necessary, decisions which had been previously passed by local bodies. Such a body might undertake the work of both elementary and secondary schools, and might be presided over by a Minister of Education.

Technical and Commercial Education.

Lord REAY said there was one aspect of the question which had not, he thought, been sufficiently insisted on. Our merchants and manufacturers had to compete in the markets of the world with those of countries where there was a system of national secondary education. At the same time the utmost care should be taken, in any legislation that might be suggested, not to destroy anything that was worth preserving, but, on the contrary, to encourage and render more efficient what was found to be good. The question was one of vast national importance, vitally concerning, as it did, our commercial supremacy, and the settlement of which would not brook delay. He heartily supported the proposal for a Commission of Inquiry, but on the condition that the Commission should report not only on what they found, but on what they considered ought to be done.

Sir ALBERT ROLLIT, M.P. (representative of the Associated Chambers of Commerce), following up the views expressed by Lord Reay, affirmed that there was really no question as to whether or not something was to be done—the only question was as to the *how* and the *when*. He had certainly himself no objection to inquiry, but it should be understood that it should be inquiry with a view to action. As one of the representatives of the commercial interests of the country, he thought it a most significant fact that in the metropolis 35 per cent. of the business houses employed foreign clerks; and it was notorious to what an extent foreign agents, acquainted with the languages of the country, were ousting our traders from markets where they were formerly without competitors.

Private Schools and Proprietary Schools.

Mr. W. BROWN (representative of the Private Schools Association) stated that the private schools objected to the County Councils, with their multifarious duties, being entrusted with the control of secondary education. They objected equally to its being handed over to School Boards, and thus brought directly under the control of the ratepayers. They claimed that experienced educationalists should direct the work, and that teachers should be directly represented on the governing bodies, local or central; that the question of the efficiency of their schools should not be left to local men, but should be decided by educational experts under the control of a central authority, similar to the Educational Council proposed in the Registration Bill, acting as a court of appeal; and that the tests of efficiency should be that the schools were conducted by qualified teachers, in suitable buildings, with an adequate staff, and the necessary apparatus and appliances for teaching. They entirely objected to the Charity Commissioners, or the Education Department, being constituted the central authority. They demanded, as they had been advocating for many years, an effective Registration Bill which would keep out pretenders and charlatans, and ultimately secure the efficiency of the teachers.

Mr. W. BOUSFIELD (representative of the Girls' Public Day School Company) showed, by the example of a case under the Welsh Intermediate Education Act, how schools of the Company, which were acknowledged to be giving efficient education, were liable to be destroyed without any consideration for the work they were doing or the capital that had been sunk in their establishment. He thought that the appointment of a Royal Commission was the only way in which justice could be done to a large number of educational bodies.

On the general question.

The Rev. Dr. RIGG (Principal of the Wesleyan Training College, Westminster) thought that all were agreed that inquiry into the condition of secondary education was a necessity. With regard to the advising Educational Council spoken of by Mr. Lyulph Stanley, he thought that on any such Council the Universities ought certainly to be represented. He also thought that the suggestion of Dr. Fitch, as to providing for the teaching of the science and history of education as part of a University course, should be very seriously considered. He was glad to hear Mr. Brown's defence of private schools, which represented the free life of England, and he would remark that, however great were the deficiencies of these schools, as reported by the Schools Inquiry Commission, it should be borne in mind that equal deficiency was found by the Commissioners to exist in the case of the endowed schools of five-and-twenty years ago.

Mr. H. W. EVE (Dean of the College of Preceptors) stated the views of the Council of the College to be, first, that the country was thoroughly ripe for Registration, and that a Registration Bill should be at once proceeded with. Next, they held most strongly with the proposition that in all controlling bodies teachers should be represented. Thirdly, they thought that if secondary education was entrusted to local bodies there should be a central controlling body, not necessarily to interfere with details, but to exercise sufficient control over the whole. The County Councils, or whatever bodies were appointed to control secondary

education, would be extremely enthusiastic. They would require a full tale of bricks from schoolmasters; and ten years hence they might expect the production of the bricks without straw. A central authority would be wanted to keep them in order. In estimating the wants of a locality, and providing for those wants, the fullest recognition should be given to existing efficient private schools, and care should be taken that the doors should not be entirely closed against private enterprise in the future. Lastly, with reference to the relation between primary and secondary education, it was held that the organization of secondary education should proceed entirely on different lines to that of primary education. Much might be learnt from primary education and its methods, but the traditions of secondary education were of a different type, and much would be lost if, in reorganizing it, the principles on which the State deals with primary education were adopted as a basis.

The Rev. T. W. SHARPE (representing the Education Department), in moving a vote of thanks to the University authorities, said that, if a Commission of Inquiry were appointed, he thought that it should not be of long duration, and might be brought to a close by the end of the next year. Two things were wanted in England: simplicity of classification of schools, and elasticity of organization. If the proposed Commission would help to bring about these desiderata, it would have done a great work for the country.

The vote of thanks was seconded by Dr. GARNETT, and carried by acclamation, and the proceedings terminated.

CORRESPONDENCE.

"EXTENSION AND ENDOWMENT."

To the Editor of the Educational Times.

SIR,—I should be glad if you would allow me space for a few words of comment on the leading article on "Extension and Endowment" in your last issue. To such of your criticisms on Professor Jebb's address as refer to the particular form in which he has expressed the claim for the endowment of University Extension, it is hardly necessary for me to reply in detail, as Professor Jebb may safely be left to plead his own cause if he think well. But both Professor Jebb's address and your article raise questions of considerable importance, in regard to some of which you appear to me to have formed certain misconceptions.

Probably we are agreed that some supplement to elementary education is desirable. No one, I imagine, would maintain the opinion that you appear to attribute to Professor Jebb, that University Extension is the only or even chief supplement required. We have, however, to face the fact that a large part of our existing adult population has received little or no regular education except that received in the elementary school. They are past the age when secondary schools would be useful, even if such were available. The question between us seems to be whether University Extension teaching can help such persons in such an effective way as to deserve public recognition and support.

University Extension audiences composed chiefly of artisans are certainly the exception rather than the rule, but anyone familiar with the history of the movement could refer at once to a number of such cases. The audiences that have gathered together year after year in some of the Northumberland pit villages, and in some of the Lancashire and West Riding manufacturing towns, may be cited. On the other hand, audiences consisting entirely of well-to-do people, able to pay for their own education, are, within my experience, also rare. I am at a loss to understand from what "syllabuses for the past session" you derive the statement that half the courses are delivered in the afternoon. During the last session, about 230 courses of the usual type were delivered under the authority of the Cambridge Syndicate; of these, less than thirty were delivered in the afternoon or morning, and several of these were special Saturday courses for elementary teachers, who, at any rate, can hardly be counted as "suburban and provincial young ladies." I have excluded from this estimate the Summer Meeting at Cambridge, which is scarcely comparable with the regular lecturing work of the provinces.

Our claim for endowment is, however, based not merely on what we succeed in doing, but on what we are prevented from doing by lack of funds.

On the one hand, our experience of artisan audiences is that they can be got together, and can fully appreciate University Extension teaching, but that they are seldom able to pay the necessary fees. Artisan centres, under existing circumstances, can therefore, in general, only be carried on by the precarious help of comparatively large subscriptions from the public. A small endowment would probably enable many such new centres to be started, old ones to continue on a permanent basis.

Again, the necessity of providing "attractive" subjects which

shall "pay," is frequently a serious bar to the provision of continuous courses for advanced students. Here and there, by the help of local endowments or Town Council grants, the University Extension centre has developed into a University Extension college, providing more continuous teaching, and advanced teaching in special subjects. There is every reason to suppose that a demand for such teaching exists elsewhere than in these favoured spots. An endowment would enable the supply to grow in proportion.

In brief, as far as I am acquainted with the views of those who ask for endowment for University Extension, they do not ask for it to save the pocket of the well-to-do "young lady" who attends an afternoon course on English literature; but they ask for it, on the one hand, to enable courses on modern history, economics, or science to be provided in industrial centres and elsewhere, where large popular audiences can be gathered together if the fees be not prohibitive, and on the other in order to provide higher teaching for the comparatively small number of students in these and other audiences who are otherwise unable to obtain it.—Yours faithfully,

ARTHUR BERRY.

Syndicate Buildings, Cambridge.

[If Mr. Berry means that the Extension system in its present form is adapted to the educational needs of the average adult "who has received little or no regular education except that received in the elementary school," we can only repeat here that we are of an entirely different opinion; if his allusion to "what we are prevented from doing by lack of funds" implies that a different system would be adopted had the Syndicate ampler means, we must answer that our criticisms could not take into account projects with which we, in common with the rest of the public, are unacquainted. When a new scheme is announced, it will be time to discuss it; so far, we think, the ability of the Universities to undertake the instruction of the working-man is not proven. To one sentence of Mr. Berry's interesting letter we would direct particular attention: "University Extension audiences composed chiefly of artisans are certainly the exception rather than the rule." We regret the error Mr. Berry calls our attention to: his letter reached us too late to enable us to ascertain how it originated, but it seems possible that the writer included the Summer Meeting lectures, as these are part of the system which would benefit by endowment.—Ed. E.T.]

THE UNITY OF HUMAN SPEECH AND THE HUMAN RACE,
ILLUSTRATED BY ONE EXTRA-MOOD FOR EMPHASISING
WHAT IS IMPORTANT AND NOVEL, USED BY
THOSE NATIONS THAT HAVE MOST INFLUENCED THE
CIVILIZATION OF MANKIND.

To the Editor of the Educational Times.

SIR,—With characteristic courtesy and love of truth, you gave prominent publicity last year to some letters of mine on a mood bearing the contradictory names of *Subjunctive* and "Conjunctive," and thus concealing, not revealing, its true nature. Rigorously restricting myself to the circulation of your journal beyond Great Britain, the following information about these letters reached me from D. W. Thompson, M.A. Cantab.; Doctor of Letters, Dublin; Greek Professor, Queen's University, Galway, Ireland: "I have now outlived my belief in these German theories on the 'Conjunctive.'"

Able to cite testimonies like that in dozens, from very many of the most eminent scholars in Oxford, Cambridge, Edinburgh, France, and America, I adhere to my limit with one exception, unique in character and peculiarity of circumstance.

The leading article of the current number of your contemporary, the *Bookman*, contains the following statement, proving that fiction is a very tame thing when contrasted with fact, Mr. Rider Haggard nevertheless and notwithstanding. "It will suffice, in dealing with the *Autobiographic Notes furnished me by Lord Beaconsfield, respecting his boyhood*, compared with those of Mr. Froude, to note that he omits the *duly authenticated anecdote of Dr. Cowan, Principal of Walthamstead School*, who said, 'I don't like Disraeli; I never could make him understand the *subjunctive*.'"

His most distinguished pupil, like his Hebrew ancestor, King David, might have said: "I am become wiser than all my teachers." The theory of the "Conjunctive," as transmitted by the mediæval *foreign* Pri-*ci*an through the Germans to Dr. Cogan, when tried by the practice of the native Cicero, must have appeared revolting to the acute and logical mind of his precocious pupil, a very chaos of contradiction. Never was there a more certain and conspicuous verification of the famous saying of Wordsworth, "The child is father to the man." Even then the courage and capacity of the future intellectual gladiator, who was destined afterwards in the House of Commons by his witty sarcasm and invective to ruffle the serenity of the majestic dignity of Peel, and then drive him from the Treasury Bench, were beginning to assert themselves in a manner too manifest to be mistaken.

Since writing to you last year, I have to add the practice of two

nations to that of the Greeks, Latins, and English—that of the Hebrews and the French. Dr. Perowne, Bishop of Worcester, one of the best, if not the best, Hebraists in Great Britain, writes: "The verse, 'Let there be light, and there was,' ought to be, as in the Hebrew, '*Be light (cause), and there was (effect).*'"—*Expositor*, November, 1891. Thus the *first subjunctive* occurs in the *first* language in which the "Lord God talked * to Adam in Eden," and is used as an *imperative*, the strongest of all moods. The Greek, the language of the New Testament, coincides with that of the Old, and the noble language of the English Bible coincides with and confirms both, e.g., *ἐὰν μὴ στραφῇτε (subjunctive), οὐ μὴ εἰσέλθῃτε (subjunctive)*, "Except ye be converted, and become as little children, ye shall not enter" (Matt. xviii. 3), where both *μὴ*, the sign of the *imperative*, is used with *subjunctive* in both clauses, and the latter clause is an *assertion* and yet in the *subjunctive*. Most naturally did the native Alexandrian Greeks call this mood *ὑποτακτικός*, the *commander* or *subordinator*.

A single sentence from the Old Testament proves the *assertive* use of *be*, as contrasted with the ordinary weaker "are," as the lawyers say, to the hilt; e.g., "We *are* no spies, we *be* twelve brethren" (Gen. xlii. 31), where the latter clause marks *important* evidence in a court of justice.

The consummate English scholars who translated the Bible would not have "liked Dr. Cogan not understanding the *subjunctive*," had he been their pupil.

So *be* interrogative is stronger than *are*; e.g., "*Be* ye come out as against a thief?" (Luke xxii. 52.)

A single sentence from the Bible, too, proves the use of *be* to *emphasise* what is novel; e.g., "There *be* three things too wonderful for me" (Prov. xxx. 18).

And yet American divines actually petitioned English divines at Westminster (1880) to "eject *be* when used for *are*" (App., Rev. Ver.)

The Latin *subjunctive*, especially as developed by Cicero, embodies the very perfection of *logical* and *linguistic* expression; e.g., "*ne furatus esses* far," you *ought not to have stolen* corn (direct, definite, absolute assertion) (*Ferr.* v. 65). Here is the compression of an ordinary indicative and ordinary imperative in the imperial *subjunctive*. The unique *dual* combination excites a dual feeling, that of admiration at the achievement by the Romans, and that of despair of its attainment by any other nation.

A brief contrast of the ordinary imperative and *subjunctive* makes this point very clear and certain; e.g., master says to small boy, "*Ne fure,*" don't steal, it is bad. A policeman says to said boy stealing apples, "*Ne fure* (*subjunctive*), *ne in carcerem conjiciaris*," you *must not steal*, lest you *be put in prison*.

Prohibition and *penalty* were both put in *subjunctive*, being both most important. All laws, wills by the dying for the living, contracts, as being of prime importance, were put in *subjunctive*.

The French use the *subjunctive* as we do. "C'est le plus orgueilleux peuple qui *soit* (Latin *sit*) au monde," "It is the [English] proudest people of all that *be* in the world."—Froissart.

Thus the French and we follow the Hebrews, Greeks, and Latins, who first stamped the impress of civilization on the face of the ancient world, and the image of beauty on the face of its literature. As for the Germans, they are conspicuous by their absence from this illustrious list. Their theories have simply made Latin, Greek, and English syntax unintelligible, anything like a principle being as conspicuous by its absence as timber on the top of Teneriffe. In the history of the Hebrews, Greeks, Latins, English, and French we can trace a law as valuable when ethnically as when linguistically considered. A wise and witty Frenchman in the First Empire said: "The English hold the empire of the sea, the French of the land, the Germans of the air."—Yours faithfully,

G. HAMILTON.

32 Polworth Gardens, Edinburgh.

Sept. 27, 1893.

* The incident, "and they heard the voice of the Lord God walking in the garden in the cool of the day" (Gen. iii. 8), of course took place before the *confusion of tongues* in the tower of Babel.—G.H.

THE TEACHING OF CITIZENSHIP.

To the Editor of the Educational Times.

SIR,—A good citizen is doubtless a desirable article—in fact no really high-toned nation can do without a considerable number of them. If this be granted, it follows that we ought—or, if you prefer the commercial phraseology, we should find it a good investment—to do what we can to ensure a constant, an unfailing, an increasing supply of the commodity. This is the line of argument which a few months ago Mr. Bryce put forward in advocacy of a national teaching of nationalism, and which has recently induced the Council of Education to issue a code of regulations for the study, in evening continuation schools, of the "Life and Duties of the Citizen"—which code has already drawn forth from several publishers manuals specially adapted to its requirements. I am not concerned with the question whether certain books are adapted to a certain syllabus, but whether that syllabus is likely to perform the practical aim set before it. This last—with all deference to Mr. Aeland of the "Skeleton Outlines" and Mr. Bryce of the "Holy Roman Empire"—we take leave to doubt. Somebody said once that "Christianity distinctly declines to be proved first and practised afterwards: faith and practice go hand in hand"; and I fancy that something the same will apply to that particular kind of religion which is called patriotism. To

learn the meaning of such terms as *nation, state, representation, government, Parliament, Cabinet, High Court of Justice*, and the mutual relations between the things thereby denoted, is difficult for an adult, dull for a child; and a sound practical knowledge of such things is far more likely to go hand in hand with, than to prepare the way for, a wise exercise of the duties of citizenship. It seems to me that it would be much more attractive to children, much more likely to give them an interest in the whole of which they are parts, to show them by a bright and intelligent study of our history how England has attained her greatness, than to make them swallow politico-moral precepts covered in a tough coating of elementary political science. The use of indirect methods has been the note of our last two centuries of constitutional history; we don't go about making folk swear allegiance, or bind themselves by religious tests, nor do we threaten cabinet ministers with the block, or pass laws defining the relations of Crown, Council, and Commons, but drift into a state of things in which the obstreperous and the offender quickly finds himself in the wrong box. So too with the training of the citizen. In his young impressionable days he may well learn, without any flaunting of the Union Jack or howling of "Rule Britannia," that people have found it worth while to give up some of their time, money, and interests to their country, and that England is none the worse for it; and when the time comes he is quite as likely to go and do likewise, and to learn how to do it while he does it, as if he had learnt laboriously at school such untruths as that "Waste of money can never be defended," or such superfluities as that "In the year 1892 there were 19,101 post-offices and 21,301 letter-boxes in the United Kingdom." Surely it implies neither depreciation of the aim in view nor disbelief in its feasibility to adopt for the production of English citizens the peculiarly English method of "indirection."—I am, Sir, &c.,

A STUDENT OF HISTORY.

Oxford, 15th October, 1893.

BOOKS OF THE SEASON.—GIFTS AND PRIZES.

(First Notice.)

MESSRS. BLACKIE & SON.

Mr. G. A. HENTY furnishes three new volumes of historical romance, all attractively got up and well supplied with capital illustrations. *A Jacobite Exile* relates the adventures of one Charlie Carstairs, whose father is arrested on a charge of complicity in a plot to assassinate King William III. Charlie contrives to effect his rescue, and the two, with other exiles in the same cause, escape from Southampton to Sweden, and take service in the army of the famous Charles XII. There the hero is present at the great battle of Narva, is made prisoner by the Russians, exchanged again, and with the Swedish army enters Poland. His adventures of various kinds—perils from war and wolves and other causes—are plentiful in the three years of his exile. Finally he returns to England, and after effecting the arrest of one Master Nicholson, the villain of the book, who is also a highwayman, rejoins his family and leaves the Jacobites to their own devices. Altogether it is a very "jolly" book, and introduces its readers to comparatively new scenes of action. *Through the Sikh War* is a stirring tale of the conquest of the Punjab, wherein one Percy Groves sees much and varied service in the British Army, under the patronage of a colonel, his uncle. He is present at the siege of a Sikh fortress, and at the battles of Moodkee and Ferozeshah, of Aliwal and Sobraon; he is made prisoner and escapes; and shares in the fight at Chillianwalla, where he is knocked senseless by a Sikh in the *mêlée* of a cavalry charge. In the end, after many other exciting experiences, he is appointed a Deputy Commissioner, and ultimately retires to end his days comfortably between Southsea and the Oriental Club. Both this book and the preceding are provided with maps, which makes them of real profit to the boy who is fortunate enough to read them and ready to use them as they ought to be used. *St. Bartholomew's Eve* deals with the story of the Huguenots. Mr. Henty does not care to introduce his readers so much to the massacres and brutalities of the time as to the military events arising from that memorable persecution in the name of religion. The story is vivid and eventful. We are introduced in rapid succession to life in a French château of the sixteenth century, to the famous Marshal Condé and Coligny, to the battlefields of St. Denis, Jarnac, and Moncontant, and to various royalties, such as the Queen of Navarre. The hero has "hairbreadth 'scapes" in plenty, and the book contrives to combine history with romance in the author's peculiarly happy way. It is one of the best gift books of the season, and one of the handsomest of Messrs. Blackie's series.

A Champion of the Faith, by Mr. J. M. CALLWELL, has its scenes further back, in the days of wild Prince Hal and the Lollards. We meet here such old friends as Sir John Oldeastle, Lord Cobham, who was imprisoned in the Tower, and see something of Westminster and the Fleet Prison as they were in the days of Agincourt and Poitiers; and, if there is something less of exciting adventure, pure and simple, there is something more of the home-life of England in this than in the other books we have noticed above.

Mr. KIRK MUNROE is the author of *The White Conquerors of Mexico*. His story deals with the great events of Cortez' life, the battles of the Tlascalans, the march upon Cholula, the wonders of Old Mexico, and of

the Court of Montezuma, that monarch's arrest, more battles and perils, and finally the overthrow of Tenochtitlan and the demolition of the temples and gods of the Aztecs.

Westward with Columbus is from the pen of Mr. GORDON STAPLES, and many boys will need no further recommendation. The book is almost a complete history of the life of the discoverer of the New World, from the days of his early troubles and rejection to his day of triumph, and the after days of his disgrace and imprisonment in Spain; but there is just enough of romance in the narrative to make it exactly the book for any boy with an Englishman's love for the sea and an Englishman's admiration for pluck and honour. There are plenty of illustrations and all are cleverly drawn and well executed.

In *With the Leakings*, Mr. F. H. WINDER takes us back to the days of Nelson, when one Philip Trevellon, a Cornish lad, goes to sea to fight the French, on board the privateer "Ocean Witch." Philip is sent on board a French frigate which has been captured, and there has the tables turned upon him by a mutiny of the prisoners, but he bears himself so well as to recover the vessel and win an officer's commission. Captured by Barbary corsairs, he is carried prisoner to Algiers, where he has further adventures in plenty, getting away in the end in time to assist in the glories of Trafalgar, and to return to his home at Falmouth with honours thick upon him. Thus much for Messrs. Blackie's contributions to historical romance, of which it is difficult to say which is the most engrossing, the most original, and the most entertaining.

In *Bunyip Land* and *Menhardoc* are stories by Mr. MANVILLE FENN, and every schoolboy will welcome them; many of them are already familiar with both, for each has reached a new edition. For the benefit of those who have not yet met with them, we may explain that *Bunyip Land* is New Guinea, while *Menhardoc* is a tale of the Cornish fishermen and Cornish miners, a story of eaves and sharks and mackerel and seals; of storms at sea, and the finding of copper veins, and much humour and superstition of the good Cornish folk; and there are half-a-dozen illustrations to help out the picturesqueness of the author's style.

Gold, Gold in Cariboo, by Mr. C. PHILIPPS-WOLLEY, is a tale of desperate doings and good luck "out West" in days of the gold craze. There are Californian gamblers and six-shooters, mad horses and Chinamen, shooting of big-horns, and ingenious swindling by gold-diggers, and finally, the discovery of such a wealth of gold as makes rich the heroes of the story—while they retain it. There is much loss of life in the book, but it is well varied with more humorous chapters, and from first to last there is no lack of interest in the narrative.

That indispensable old friend, *Robinson Crusoe*, re-appears in a new edition, with illustrations large and small.

Amongst books for girl readers are *Under False Colours*, by Miss SARAH DOUDNEY (new edition); *A Fair Claimant*, by Miss FRANCES ARMSTRONG; and *Nicola*, by Miss CORBET-SEYMOUR. The last-named has the second title of *The Story of a Girl Musician*. It is the narrative of a Flemish foundling, who is adopted into an English family, and there develops the talent of an artist. There she is sought for by a son of her unknown father, one George Claeys. George is a City clerk, and much of the interest of the book turns on the snobbishness which debars him from the society of his more talented half-sister, who, indeed, looks down upon him altogether, and even when he becomes unexpectedly a rich man still declines to share his wealth. Luckily, or otherwise, an accident now deprives her of her voice, and in the trouble which follows she accepts the will of destiny, and finds an affection for the brother she has despised. The book is pleasantly written.

A Fair Claimant is a novel. It is the story of one Blanche Bethune, whom her husband's failings drive to despair. She runs away, taking her one child, Olive, with her, and secretes herself in a low-class neighbourhood of London, where no one would think of seeking for the two. But a few months afterwards she comes face to face with her husband, who is tardily doing what he can to find her, and in her frantic efforts to get away from him she is run over and killed. Olive is befriended and adopted, and emigrates with her protectors to Odessa, whence she returns after some years as governess in the family of one Colonel Lenhouse, whose wife turns out to be her father's half-sister, and the heiress to the property which should be Olive's own. How Olive sets about finding the proofs of her own identity, how she is detected in her search for a secret drawer which contains one link in the proof, how she is mistaken for a thief and adventuress, how she vindicates herself from the double charge, how she marries one Captain Keith, who has befriended her in past days, and how she returns to be mistress of Barrington Court, where she was lately a governess, must be read in the pages of what is a very pleasant novel.

Books intended for rather younger readers are *A Little Handful*, by Miss HARRIER J. SCRIPPS, and *A Soldier's Son*, by Miss ANNETTE LYSTER. They are both very pleasant little volumes, excellently got up, and nicely illustrated; the illustrations, indeed, are a feature of excellence in Messrs. Blackie's books. Miss Scripps is evidently an American writer, and her nationality colours her language not unpleasingly.

Much of the same style are *Mischief and Merry-making*, by Miss ISABELLA PEARSON, the experiences and frolics of two small people on a visit to the country, and *Summer Fun and Frolic*, by the same authoress. The pictures are rather less conspicuous in these smaller volumes, but the

printing and finish are all that could be desired. They should lighten the holiday moments of a goodly number of little ones.

Besides these larger gift-books, some of them "real big," and likely to be read by much older folk than those to whom holidays are consecrated, there is a heap of smaller volumes, all equally well finished, and all attractively equipped, while their price is small enough to put them within reach of every purchaser. Amongst them—to name one or two—are *Grandmother's Forget-me-nots*, *Brave Dorette*, and *What Hilda Saw*, books for girls; *Spark and I*, *Little Aunt Dorothy*, and *The Doctor's Lass*; and, still tinier volumes for very wee folks indeed, *Marjory's White Rat* and *Mrs. Holland's Peaches*.

MR. FISHER UNWIN.

"The Children's Library" is as pretty and tasteful and attractive a series of little books for the young as any that has come under our notice. The graceful illustrations, the dainty covers, and the fanciful shapes, combine with the subject-matter of most of the volumes to make them particularly suitable for prizes to little ones. The latest addition to the series is *The Pope's Mule, and Other Stories*, translated from Daudet into idiomatic English, and its contents are rather more "grown-up" than those of its predecessors. We do not mean that they are unfit for children, but, while such tales as *The Last Lesson* and *The Miller's Secret* are not beyond the comprehension of the young, adults will find beauty and pathos and depth in them that the little eyes and mind will scarcely discover. The same might be said of Hans Andersen, of course, and, perhaps, of all the best "children's literature."

Mrs. BRIGHTWEN'S *Wild Nature Won by Kindness* is one of the pleasantest of natural-history books. It is now in its fifth edition, and has been well bound and illustrated to fit it for presentation. It is just the prize for a boy or girl with a taste for birds and insects and toads and other small deer.

The Tragedy of the Norse Gods is a handsome volume, in which Miss RUTH PITT gives us the outlines of the old Scandinavian mythology, in a series of well-written narratives. The Eddas are worth reading in this form by those who can get no nearer the original, for the subject is one in which we are all interested, and Miss Pitt has done her selecting, excerpting, connecting, and translating with considerable skill. The book has several pretty but rather weak illustrations.

THE NATIONAL SOCIETY.

The National Society caters vigorously "for the young," and especially for the feminine young. It sends us five "new story books," all prettily got up, with neat bindings and more or less praiseworthy illustrations, and all suitable enough for presentation. *Stephanie's Children* is by the clever authoress of *The Atelier du Lys*, and tells us prettily about the escape of the heroine from France during the Revolution, and the life of the *émigrés* and *émigrées* in London.

Miss CHARLOTTE YONGE, the inexhaustible, takes for her theme, in *The Treasures in the Marshes*, the discovery of hidden treasure and the fortunes of its finders. Miss BRAMSTON inculcates the wholesome moral lesson of "honesty and truth at all costs" in *Winning his Freedom*. Miss MARY DEBENHAM'S *My God-daughter* moves us with the story of children lost and found in London; and Miss C. R. COLERIDGE is represented by *A Bag of Farthings*, where we read about a boy who is wrongfully suspected of theft, and emerges without a stain on his character.

VARIOUS PUBLISHERS.

The Girls of Cliff School (Sunday School Union) is a pleasant and wholesome story by Miss GRACE TOPLIS, who knows how to write about girls for girls, which is by no means an easy or common art. There is a good deal of quiet humour in parts (notably the account of the rebellion of the pupils and their poetic renderings of their wrongs), and in the more serious portions Miss Toplis manages to be impressive without a suspicion of the "goody-goody."

The Outdoor World (Longmans) has for a sub-title "The Young Collector's Handbook": its author is Mr. W. FURNEAUX, and he writes about butterflies, fishes, bees, and the like, in a businesslike straightforward manner. There are plenty of illustrations, and the binding is attractive. It is meant for boys who take their natural history a little more seriously than Mrs. Brightwen's clientèle.

Fergus MacTavish (Hodder) is a story of the ups and downs of life in far North-West: its author, Mr. J. M. OXLEY, has already achieved some success as a writer for boys, and this book seems likely to maintain his reputation; its publishers have had it liberally illustrated and attractively bound.

Mr. J. M. BARRIE'S *The Little Minister* is in its twenty-fourth thousand; it is gratifying to know that its merits as a work of literature have been so amply recognised. In the present edition (one neat volume), there is a set of fine illustrations by Mr. HOLC, R.S.A. It would do very well as a prize for big boys or girls—especially girls.

We have also received bound volumes of various periodicals, of which may be mentioned here *The Girls' Own* and *The Boys' Own Annuals*, (*Leisure Hour* office), and *Chums* (Cassells). The many merits of these are well known to all concerned.

MESSRS. BELL'S LIST.

Large post 4to, paper cover, 9s. net.

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* * The above is the first instalment of the new edition of the "Corpus Poetarum Latinorum," which has been in preparation for several years. The whole will be completed in four parts, making two volumes.

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The chair was occupied by the Rev. J. E. C. WELLDON, M.A., Headmaster of Harrow School, who was supported by Mr. H. W. Eve, Dean of the College; Mr. E. Pinches, Treasurer; the Rev. Canon Daniel, Mr. J. Stewart, and Dr. R. Wormell, Vice-Presidents; Mr. Atkinson, Mr. Barlet, Dr. Bell, Mr. Beuzemaker, Mr. Bidlake, Mr. Brown, Dr. Buchheim, Mr. Charles, Mr. Langler, Mr. Low, Mr. Reynolds, Rev. Dr. Scott, Mr. Armitage Smith, Mr. Storr, Rev. R. O. T. Thorpe, Mr. Foster Watson, and others.

The CHAIRMAN, in opening the proceedings, said:—Ladies and Gentlemen,—It is a particular pleasure to me to enjoy the opportunity of distributing diplomas, prizes, and certificates on this occasion, and I think the first words that I speak ought to be an acknowledgment of the thanks which are owing from me to the Council of this College for the honourable duty which they, in the exercise of their discretion, have laid upon me. And it happens that I have a long-standing interest in this College, for I remember that I began my own education, many years ago, under the care of a gentleman—who has long since passed away—who used to add to his name the letters which were then wholly mysterious in my eyes: "L.C.P." My reverence for my first schoolmaster was not diminished when I discovered that those mystic letters meant "Licentiate of the College of Preceptors," all the more as I had no conception of the meaning of a Preceptor, and no conception of the meaning of a Licentiate.

There comes a time in life when we cease to receive prizes, and begin to distribute them, and I do not know that the pleasure of distributing is sensibly less than that of receiving prizes. But I should wish to offer my congratulation to the successful candidates for the distinctions which this College is empowered to bestow. I think it is impossible to survey the field of education at the present moment without realizing that we stand at a time of considerable interest—a time when, unless I am mistaken, we are on the eve of considerable reforms. There are at least two events to which I should like to refer, in passing, if only for the sake of showing how interesting, in the point of view of education, is the time at which we stand, and at which I have the honour of addressing you. We are expecting—I could almost say we are daily expecting—the Report of the Commission upon the Teaching University for London. What that report will be it is not in my power to say. I venture to predict that it will not be a unanimous report; but having had a connexion with this great question of the University of London, I do not think I shall be out of order if I express the conviction which I then formed, and from which I have never seen ground to depart, that the opportunity of establishing a Teaching University for London is the greatest educational opportunity which has arisen, or is likely to arise, in our time; and I think that if the scheme which the Commissioners propose is in any sense partial, or half-hearted—if it does not go the whole way of reform—if it does not satisfy the full, legitimate aspirations of the immense number of students who are gathered, or may be gathered, within this great metropolis—I say, if that is the case, the report, and the action of the Commissioners, will be to all of us, or to most, a grievous disappointment.

There is another event which I ought not to pass over, as it bears signally upon the history and scope of secondary education, and that is the Conference which has recently been

held in the University of Oxford. Whatever may be the actual outcome of that Conference, I am assured in my own mind that the action of the University in inviting, by its corporate effort, so large a number of persons interested in education to consider, in all its length and depth, the problem of Secondary Education is fraught with most hopeful augury for the future. I daresay that the immediate result of that Conference may not be large, but it is a step in the right direction, and it is a step of which the large consequences will, I think, appear more and more clearly as time passes on. Speaking to you in this place, I can hardly help reflecting upon the course of Secondary Education, so far as it is possible to discern it and express it in a brief space of time; but it is clear to me that there are certain tendencies in the air. These tendencies are likely to become stronger and stronger, and in my own judgment they are tendencies which are good in themselves, and deserve the support of persons interested in education. I cannot doubt that the question of the registration of all teachers is a question which is ripe for settlement. There is no reform, so far as I am aware, which would go so far to create a sense of unity in the educational profession, as a whole, as when it comes to be required that a teacher, whoever he or she may be, should stand in a definite relation to the State, and should obtain and possess some certificate of efficiency as a necessary prelude to teaching at all.

And then I come to another tendency which I discern at the present time, and that is a tendency of most hopeful import—I mean the tendency to require a certain training of teachers. It has always appeared to me a curious phenomenon that the country which attaches value to the training of the pupil should not attach value to the training of the teacher. That it is possible to train teachers, and to give them an efficient training for their high profession, I do not think it is possible to doubt; and, although in the case of the schools with which I am most familiar, the difficulty has been that the best men were not ready to offer themselves for preliminary training, yet that difficulty is passing away. I do not think headmasters can be altogether blamed if they have not been in a hurry to insist upon a qualification which, unless it were demanded in all quarters, might, to some extent, tie their hands in the responsible work of selecting their colleagues; but the time is coming, and signs show that it is coming, when all teachers in public schools, as in other schools, will, I think, be required to have undergone some sort of preliminary training, and to produce a certificate of their having undergone it, before they can hope to succeed to the full responsibilities and emoluments of their profession. For my own part, I cannot help saying that I feel the certificate of practical efficiency in education to be considerably more difficult than the certificate of theoretical efficiency. That a young man should be required to have read the works of great authorities upon education in the past, seems to me to be not only natural, but so entirely natural that it is difficult for me to understand how the educational world has gone on so long without it. But knowing, as I have cause to know, the extreme difficulty of forming an opinion—I will not say upon the immediate, but the eventual, fitness of a young teacher for his profession—knowing how long it takes to test him, and what an intimate acquaintance with him the test demands—at least in the school with which I have to do—I must frankly say that the test which is the result of a few hours' examination, conducted by a person, however competent he may be, does not seem to me at present to meet the whole exigency of the case. I therefore submit to you—and I submit with great respect, speaking in the presence of educators who have been better representatives, and perhaps missionaries, in the cause of educational reform than I have been—that you must expect a somewhat gradual progress in regard to certificates of practical efficiency, but that you may look for a speedy demand of certificates of theoretical efficiency in the case of all persons who aspire to enter upon the educational profession.

It is only right to say that these tendencies of which I have spoken are leading up to that great question which came before the Conference at Oxford—I mean the organization of Secondary Education. I do not know whether I shall carry you with me, but I cannot help saying that the word "secondary" has always seemed to me unfortunate with regard to the special kinds of education which are comprehended under its meaning. So far as I know, the word "secondary" is exceedingly vague, and the only idea which it conveys to all persons—to persons who have not studied educational questions,

as well as to those who have—is a certain idea of inferiority. I venture to say that if you do not use the words "primary" and "tertiary," and if you do use the word "secondary," you lend yourself to a certain misunderstanding. I will go farther, and add that the schools comprehended under the designation "secondary schools" are at present so numerous and so various that it is practically impossible to treat them collectively, and it is necessary, in order to clear the way for educational reform, to devise some other nomenclature, which will not lend itself to misapprehension, and which will not obscure, as the word "secondary" tends to obscure, the great, and almost vital, differences between schools and between educational bodies which serve the cause of what is now called "Secondary Education." This is not perhaps the occasion for me to suggest a proper nomenclature, but I hope when it is devised it will place the schools which are now called "secondary," and which are better called "intermediate," in their right relation, not only to the Universities above them, but to those most important schools which may be described as lying below them.

Now, ladies and gentlemen, I have put before you the view which it occurs to me to state, as one who looks with great interest and concern upon the problem of Secondary Education, but I am sure I am justified in remarking that these reforms to which I look forward, and to which I think you look forward, are exactly the reforms which the College of Preceptors has been endeavouring to accomplish from the time of its institution to the present day. I find in the Calendar that it is the College of Preceptors which has always, as is there stated, advocated the legal registration of teachers. I find that it is the College of Preceptors which, in the very words of its Royal Charter, dating now more than forty years ago, aspires "to ascertain and give certificates of the acquirements and fitness for their office of persons engaged, or desiring to be engaged, in the education of youth." The College of Preceptors has led the way in establishing a professorship in the Science and Art of Education, and unless I am mistaken, the College is on the verge of establishing a Training College in which that science and art of education (for education is a science and is an art) may be developed and exhibited in the most favourable conditions. I do not know that there is any institution, or any corporation, which has done more than the College of Preceptors to create the idea of unity between the various members of the educational profession. When I look at the scale and extent of the operations of the College, I feel inclined to say that the College is doing, and has for a long time been doing, a considerable part of the work which legitimately belongs to the State. I find that the number of candidates for certificates in the course of last year has fallen not very far short of 17,000, and although the number of candidates for diplomas—the number of teachers who submit themselves to its examinations—is markedly smaller, yet I find it has risen to something between 200 and 300 during the past year. And although this marked disparity of numbers is no doubt due to the curious sentiment of which I have already spoken, which attaches value to certificates of efficiency in the taught, but does not attach value to certificates of efficiency in the teacher, yet the fact that between 200 and 300 teachers have offered themselves for the examinations of the College, is a fact full of hope—a fact which evidences that the College is working on the right lines, and I do not doubt that the College, and the Council of the College, will enjoy their just reward when the principles which they have advocated for so long a time, without official recognition, come to be recognised by the State as the principles which are essential to a right system of secondary education.

I know it is not the custom for the Chairman on these occasions to make a long address, and, therefore, the only thing that I should like to say, in addition to the remarks which have already fallen from me, is to urge upon teachers and taught alike that they should not lose the habit of regarding education as a thing which is complete and valuable in itself. It is so much the habit in England to look upon knowledge as only valuable, or only fully valuable, if it be associated with certain commercial or social advantages, or with certain theological doctrines; but I venture to say, if we can think of knowledge as being a thing which is absolutely good in itself, if we can realize that just in proportion to our knowledge we are fitted to play a good and useful part in the world of affairs—I am not saying that knowledge is the only thing—what I want to impress upon you is that knowledge has a value of its

own, and if that idea be once got into our minds, I think, whether we be teachers or taught, or whether we be what we all ought to be, both teachers and taught, we shall go about our work in a higher spirit, we shall better understand the office of education, and we shall do a higher and nobler service to the community. I am most anxious to impress upon all who do me the honour of listening to my words that it is in the highest degree desirable to dissociate the idea of education from any other idea which may complicate and embarrass it. Let us not deny the importance of other things, but let us never forget the essential intrinsic value of education and knowledge in itself.

Perhaps you will let me conclude, in the way in which it is natural for a schoolmaster to conclude, by urging upon the teachers who are here the very great responsibility of their profession, and the enormous importance—I can almost say the incalculable importance—which, in the profession of teaching, attaches to the person and character of the teacher himself. It is not so much what we do or what we say, it is what we are that tells upon our pupils. In the part of the profession to which I belong it has not always, I think, been sufficiently recognised that any laxity, any negligence of the teacher is almost certain to tell, and to tell evidently and conspicuously in the long run, if not at the moment, upon the conduct of the pupils committed to his care. I hardly ever knew of serious trouble of an intellectual or even of a moral kind, arising among boys, but I think I have been able to trace the cause of it to some fault—it may be even to a small fault—in one of the masters, or probably in myself. Therefore, my last words—the words most likely to remain in the minds of the teachers—shall be that they ought, every day of their lives, to live in the hope and the prayer that they may themselves be true and noble, for that is the only way of making their pupils to be true and noble also.

The diplomas, prizes, and certificates were then distributed, after which

The DEAN, in proposing a vote of thanks to the Chairman, said they had all listened with a great deal of pleasure, and he hoped with profit, to the very able and interesting address that had just been delivered. With regard to Mr. Welldon's position in the educational world, it was not necessary for him to speak, as it was so well known to every one; and, further, he thought that those who had followed his public utterances would feel that the earnest words with which he concluded were no mere form, but the outcome of constant and earnest efforts on his own part to uphold a high and stainless standard of life and conduct. Mr. Welldon had spoken of the very difficult question of the Teaching University for London, and very modestly alluded to his own part in attempting the solution of that extremely complicated problem, but it would probably be in the recollection of all that the present Commission was not the first that had sat upon the subject. Of the first Commission, which was a very small one, Mr. Welldon was a member, and he thought he was not wrong in saying that had all his colleagues taken as wide and as earnest a view of the subject as Mr. Welldon did, the problem would be much nearer solution than it now was. He was very glad to hear how thoroughly Mr. Welldon recognised the services that the College had done to education. As Mr. Welldon read some of those quaint, old-fashioned words from their Charter, it reminded him how often a movement was delayed in its fulfilment, how often the bread was cast upon the water and not found again for a good many years. The present growing enthusiasm for the united education profession, for the sound training of teachers, was not a movement of the present day only, any more than the present enthusiasm for scientific teaching was. The men who founded the College of Preceptors were far-sighted men, and a good deal before their time. They reminded him rather of a very well known man in his time who stood for a while almost alone—he meant the late Dean Dawes, who did so much to stimulate scientific teaching. For a while scientific teaching was almost forgotten, but it was now revived with an energy that threatened almost to sweep all other teaching before it. In the same way the ideas of those far-sighted men who believed that teachers ought to be prepared for their profession, and that their profession was a very real one, had dropped out of mind for some twenty years, till they had now come to the front again, and he thought there was very little doubt but that their ideas would win. He quite realized the great difficulty of certifying practical efficiency in teaching; all they could attempt at present was what might be called a negative certificate, viz., that the person examined was exempt from

defects of method or manner which would necessarily make him a bad teacher. The more delicate and subtle part time alone could effect.

Dr. WORMELL, in seconding the motion, said that on reading that the Headmaster of Harrow was to take the chair that day, he felt somewhat as he felt when a few days ago he went down as the representative of the College of Preceptors to the Conference at Oxford. As the Dean had pointed out, on different occasions and in many ways Mr. Welldon had shown very great interest and sympathy with the work of educators of all classes, but headmasters of other schools had kept themselves aloof from the large body of teachers, and the Universities had not taken the position which they ought to have taken as the heads of the profession. But all that seemed to be changed, and partitions which had helped to keep out the genial sunshine from many of the corners of the profession were now crumbling away. The University of Oxford had just done what only a University could do. With courageous generosity it had gathered together representatives of every shade of the teacher's work, but the direct result of such a conference was not easily pointed out, though the indirect results were very great indeed. The Chairman had remarked that the word "secondary" was not a satisfactory term, but at Oxford it struck him that no word which had been applied for similar purposes received general assent. One speaker spoke of first-grade schools, second-grade schools, and so on, and the next speaker immediately showed that "grade" was an unfortunate word to use. One thing which came out beyond all others in the Conference was that the educational influence in this country could not be represented by a straight line, a curved line, or a zigzag line, or in fact a line of any kind. It was like what in regard to magnetic influence was called a "Field." The resolution which the Conference would have arrived at if it had been allowed, namely, that there should be a Royal Commission to inquire into the question, indicated a promising and healthful attitude. Ever since the days of Socrates it had been admitted that it was better to be able to say "I don't know," than to feel certain of the truth and yet be in error. Although many of the members before they went to Oxford would have had no hesitation in undertaking to draft a Secondary Education Bill at a very short notice, the end of it it all was—"Well, I don't know; there is room for inquiry."

The vote of thanks having been carried by acclamation, and Mr. Welldon having said a few words in acknowledgment of it, the proceedings terminated.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A meeting of the Council took place at the College, Bloomsbury Square, on the 18th of October. Present—Dr. Wormell, Vice-President, in the Chair; Rev. J. O. Bevan, Rev. A. W. Boulden, Mr. Brown, Mrs. Bryant, Mr. Charles, Mr. Eve, Rev. Dr. Frost, Miss Jebb, Mr. Maxwell, Mr. Milne, Mr. Pinches, Rev. Dr. Poole, Rev. Dr. Robson, Rev. W. J. Savell, Mr. Stewart, and Rev. J. Twentyman.

The minutes of the last meeting were read and confirmed.

The Diploma of Licentiate was granted to Miss J. B. Bury, who had passed the required examination.

The report of the Finance Committee was adopted.

The report of the Literary Committee was adopted, and direction was given to purchase a large number of books for the library.

The following persons were elected members of the College:—

Mr. E. G. Bryant, B.A., B.Sc. Lond., Park Road, Redditch.

Mr. A. Collins, A.C.P., 4 Allyn Crescent, Dulwich.

Mr. G. W. Pigott, Prestatyn, Flintshire.

Mr. J. F. Quarmby, A.C.P., St. Mary Magdalene's School, Trinity Road, Upper Tooting.

Mr. J. T. Sarll, B.A. Lond., 192 Euston Road, N.W.

Mr. S. E. Winbolt, B.A. Oxon., 26 Winchester Road, South Hampstead.

The following books have been presented to the library since the last meeting of the Council:—

CAMBRIDGE UNIVERSITY PRESS.—Simcox's Revelation of St. John the Divine (Camb. Greek Text, for Schools and Colleges).

CLARENDON PRESS.—Buehheim's Elementary German Prose Composition; Elton's Milton's Lycidas and Milton's L'Allegro.

CLIVE & CO.—London Inter. Arts Directory; London Inter. Science and Prelim. Sci. Directory; Allcroft and Mason's Tutorial History of Rome; Fearenside's Intermediate Text-Book of English History, Vol. II.

COLLINS, SONS, & CO.—The Graphic Infant Primer, Nos. 1 and 2; The Graphic Infant Reader, Nos. 1 and 2.

MACMILLAN & CO.—Ashmore's Terence's Adelphoe; Deighton's Shakespeare's King Henry the Fourth (First Part and Second Part), and Romeo and Juliet; Fasnacht's Hauff's Das Wirthshaus in Spessart; Roscoe and Lunt's Inorganic Chemistry for Beginners; Colson's Cicero pro Milone.

PHILIP & SON.—Furneaux's English edition of Schmidt's Anatomical Model, with Descriptive Text.

Calendars.—Univ. of St. Andrews (1893-1894); University College, Liverpool (1893-1894); Mason College, Birmingham (1893-1894).

"DEBATE NIGHT" AT A LADIES' COLLEGE.

An air of subdued revelry hangs round the very outside of the sober red-brick College; more windows than usual are brilliantly lit up. Once inside you find yourself the centre of a buzz proceeding from all directions. Girls stand about the entrance waiting for their especial visitors, and other girls come hurriedly out of their rooms on each side of the long corridors. But by far the greater part of the College is in the hall where the debate is to be held. No one in authority is present as yet, and there are very few visitors as yet, so the girls are sitting and standing about, watching the doors and talking all together. The effect is curious from the absence of any male voice. The same thing makes itself felt in the whole look of the room; without any of the uncompromising black and white of the inferior sex, the girls' dresses are positively dazzling. It is difficult to realize that these radiant young creatures in pink and white and blue and yellow are the wearers of the somewhat forbidding ulsters and strictly serviceable boots which strike awe into the undergraduate heart at morning lectures. The excitement is far more candid than if any men were present. There is a kind of protest about it—the note is there though it is not struck, except by a girl here and there who answers a visitor, "Of course, just as much as if they were admitted!" occasionally, "Quite as nice," with a more scrupulous "or nearly."

Visitors come in by twos and threes till all have arrived and settled down by the side of their young hostesses, who have been anxiously reserving seats. Then the authorities file in and take possession of their armchairs amidst loyal clapping. Last of all, the heroines of the evening, the opener and the opposer, take up their stand, each behind a little table, that holds a lamp, a pot of flowers, and a water-jug and tumbler. Both are nervous and blushing, and smile at one another. A short time is given them to recover, during which the result of the last debate is announced, and receives applause from the winning side. It is then officially intimated that "the question before this House is that it is not advisable to withhold the franchise from women. Opener, Miss Graham; Opposer, Miss Williams."

Being "now called upon," the opener justifies her designation. Her appearance and manner are so exceedingly appropriate to her arguments, and lend them so much (not altogether unneeded) force, that one almost suspects her of taking the line she does from a sense of the fitness of things. She is a dignified-looking girl with a broad white forehead, calm intelligent eyes, and a beautiful grave voice. She begins with the usual astonishment that there should be an hon. opposer at all to such a motion. As the anomaly is not three yards from her, smiling with defiant sweetness, she continues, amid some laughter, "Well, we will assume for a moment that my hon. opposer exists, and can be taken seriously. It is harder to imagine what she can believe—conscientiously believe—to be her arguments." At "conscientiously," a faint voice said "Query," but the owner thereof was frowned down and covered with confusion. Debates must be taken seriously, and the opener grew more earnest. "She will doubtless repeat the stock argument of our mental inferiority. But surely, oh surely, this is not the place, and this is not the time, to deny that woman has proved herself, on the first opportunity given her, not only the equal of man intellectually, but even his superior!"

As this astounding fact has been "proved" by some actually in our midst to-night, the clapping is tremendous, the cries of "Query" only augmenting it, like a little water thrown on a fire.

"Then the hon. opposer will state," went on the soft voice, "that all womanliness, all graces of mind and manner will be utterly lost sight of if women enter into politics. This intimidating cry has been chiefly raised by men. I once heard a man say it"—(she waxed indignant)—"his wife was sitting beside him. Her hair was cut short like her husband's"—(the speaker's hand strayed unconsciously to the graceful coils on her neck)—"her dress and hat were as unwomanly as anything could well be; her conversation was interlarded with hunting slang; she used to smoke cigarettes; and she looked up when her husband had done speaking, and said she quite agreed with him."

The hon. opener here paused for effect, and possibly for applause. Then she went on with her speech, which we will not give in full. It ended with the well-worn instance of George Eliot and George Eliot's butler, and was received with indulgent smiles on the one side, and frantic applause on the other.

Then arose the hon. opposer. She was a saucy-looking girl, barely five feet high, and she proceeded to treat the subject in a spirit of lamentable frivolity. "What I contend is," said she, "not that we couldn't, as the hon. opener thinks it necessary to disprove; nor that we shouldn't, on which statement she again was a trifle superfluous; but that we *wouldn't*—that hardly any of us would." This climax was received with astonishment by all concerned.

"Anyone to whom politics are not a *terra incognita*," continued the hon. opposer with a *blasé* air, "knows very well that, whichever party is in, the affairs of the State go on much the same." (A gentle murmur of "Really? Home Rule, now?" from the hon. proposer.) "As far as I can see, the only difference would be that there would be thousands more votes to count, which would give useless trouble and cause more mistakes than there already are. The hon. opposer must remember that we are not like George Eliot, or even, may I say, like the hon. proposer herself, in our general culture—(laughter)—and our knowledge of politics in particular." (The hon. proposer winced visibly.) "There is very little doubt that most of us would vote as our husbands told us to; or, if we were not married, as our fathers did. Supposing they stopped our dress allowance! (Laughter.) Among the poor, do you suppose the wife of a labourer who beats her every Saturday night would have much choice as to whether she voted on his side or not? We should have very little freedom and very little advantage in any way. For my part, I have no grasp whatever of the politics of my country, and I could not conscientiously give my vote on either side without careful study and a long time given to strict attention to the subject. Now, with all my other occupations and duties, is it fair, is it reasonable, to expect me to take this added burden upon my shoulders? (Laughter.) To use a homely metaphor, why should I keep a watch-dog and bark myself? If I can get my husband"—(here the hon. opposer was observed to reddened slightly)—"my father, or my brother to legislate for my benefit, much as he takes my railway-ticket and carries my parcels"—("Query?" from a chubby little girl with many brothers)—"why should I get unbecomingly hot in the attempt? If my male relatives show any disposition to assume my responsibilities—if they will leave me at leisure to study my country's constitution while they design my dresses, trim my hats, keep their own wardrobe in repair, order the meals, have an eye to the servants' expenditure, entertain my guests, superintend the nursery, pay all the afternoon calls, and write nearly all the family letters—I shall be only too delighted to exercise the privilege of the franchise as unhesitatingly as I call upon this House to support me by voting against the present motion." And the hon. opposer sat down in a storm of clapping.

Then arose a rather dishevelled-looking girl. "Considering the subject before us concerns the welfare of by far the larger half of the English-speaking race," she began majestically, with oratorically outstretched arm, "it behoves us"—("Look at her glove—every single button off, and pins instead!" in a loud whisper from the Opposition)—"to—to—we ought—every one ought—it should be thoroughly mastered," and she suddenly collapsed, with a crimson look of rage at the whisperer. Much clapping, and a few unkind cries of "Hear, hear!"

Then a motherly visitor got up and beamed. What she said had no bearing whatever on the franchise; she seemed under the impression that she was either at a wedding or a tenants' dinner, and rambled on about the pleasure of being met together this evening, till her girl-hostess was scarlet, and at last plucked up courage to pull her dress, when she subsided with an alarmed "Eh, what?" She got quite a round of good-natured clapping, and felt she could nevermore lay claim to being unaccustomed to public speaking.

Speaker after speaker then arose, but very little of any importance was said. Not having had the advantage of a careful preparation, and many of their points having been forestalled, most of the girls were slightly involved and incoherent. Some boldly brought forward a point that had been already disposed of rather than lose a neatly worded sentence that had long been awaiting its turn. All the speeches were courteously received; but, as the evening wore on, many anxious glances were cast at the clock. At last a lecturer arose, and so clearly forgot that she was not there in an official capacity that another, who had intended to speak after her, mercifully forbore, pitying the irritated and impatient girls, who saw their time for dancing fast slipping away. At last the hon. opener was called upon, and she sorrowfully arose. With gentle dignity, she deplored that she had not been taken seriously in the charm-

ingly bright and amusing answer of her hon. opponent. She regretted that one more worthy to defend the cause had not been chosen to represent it. (Cries of "No!") She mildly hinted that lesser instances of coercion than the stoppage of a dress allowance or the knocking about of a voter had been known to unseat a candidate; also that it was *not* published in the newspapers which side anyone had voted for, and in the cases suggested prevarication *might* be resorted to. She was loth to suggest such a course, but failed to perceive the moral difference between—well, *temporising* with a brutal husband or father, and voting against one's convictions at his instance. She insinuated that, considering that the multifarious occupations of the hon. opposer debarred her from the study of politics, the current fiction of the day absorbed an astonishing amount of her valuable leisure. She inquired mildly whether "the busiest woman had ever been known to refuse to hold a stall at a fancy fair, and work for it till she dropped," and she ended by enlisting the feeling of "this House" on her side and carrying her motion.

Then did every girl in the hall spring to her feet, and, seizing her chair and the chairs of her visitors, bear them away. In a twinkling the floor was empty and a waltz struck up. Some of the visitors went into the gallery and looked down at the dancers. None of the girls joined them, except one or two languid Eurasians, English as to dress and arrangement of hair, but dusky of skin and bangled with green glass; on the principle of the hon. opposer, they would never dream of dancing while they could get anyone else to do it for them, and they watched from above with many flashes of splendid white teeth. It was a wonderfully pretty scene. It mattered nothing that some of the girls were plain, and many of the bright dresses were home-made and unskilful. All were young, and all danced with the greatest possible *verve* and spirit. The merriest dances pleased them best, and a galop to the tune of "John Peel" was universally encored. Mathematics—Classics—Moral Science—where were they? The very atmosphere of them was surely fanned away by those gauzy draperies. But listen to the conversation of those two very pretty girls who are "sitting out" after nearly killing themselves in the galop. "I'm specializing in French, you know." "Are you? that's not so hard, is it?" "Oh, I don't know about that—you see, it includes Provençal."

Then the *Pas de Quatre* strikes up, and "this House" gets wildly excited. Pink shoes and blue shoes rap the tune out faster and faster, and sway to and fro with the music. The time is coming to an end, and the pianist plays furiously. Couples frequently collide, and a wave of laughter passes over the room. The absence of the bass note is remarkable once more.

One couple are dancing as if they never meant to stop. In the course of the dance their merry excited faces come just under the lamp. They are left the last on the floor when the music has all but ceased. One is the saucy little opposer, and the other, the wildest and merriest in the hall, is the earnest opener and advocate of the rights of oppressed womanhood. A.

COLLEGE OF PRECEPTORS.

EVENING MEETING, OCTOBER 18TH, 1893.

The Chair having been taken by J. STEWART, Esq., H. COURTHOPE BOWEN, Esq., read the following paper on

SOME THOUGHTS ON THE WORK OF JUNIOR FORMS.

I have chosen this title for my lecture in order to guard myself against the charge of incompleteness. I shall not attempt, in the time at my disposal, to say all that can be said about the work of junior forms, but only try to lay before you—and perhaps induce you to consider—*some* of the thoughts which have formed themselves in my mind when pondering over the leading principles and the materials which we use, or should use, during the earlier periods of school life. Where you see gaps in my programme you will of course say so, and will fill them in as you think fit. But when doing this, I would beg you to bear in mind that children also are human—very human, most of them—and that the hours during which they can do satisfactory work are not unlimited. I, at least, shall not endeavour to prolong or increase their labours.

I must make a confession. I am so constituted—perhaps I am not absolutely unique in this respect—that when I am prepar-

ing, or doing, or thinking over any work (especially school-work) I incessantly find myself, willingly or unwillingly, impelled to seek out a general principle—something which will apply to more than one case, and which, when modified in the particular manner demanded by a particular case, will serve as an interpreter and a guide for action in that and other like cases. But even when I have caught my principle, more or less general as it may chance to be, I am not allowed to rest. A still stronger impulse urges me to apply my principle to practice, to see how it holds good in work, how it expresses itself in action. By itself and for itself it soon ceases to interest me; as applied to practice it fascinates me. What does the principle really mean? What are the particular facts of any particular cases? What modifications of the principle do they demand? These are the thoughts which will keep buzzing in my head sometimes when, perhaps, I ought to be telling the children the heights of the mountains in Tasmania, or hearing them say grammar rules by heart, or setting them a nice long exercise of sums to do all on exactly the same pattern. And so now, when I am about to speak to you on the work of junior forms, for the life of me I cannot help beginning with general principles. Bear with my infirmity. I will make the statement as short and as clear as possible.

I trust I have not dismayed you, or led you to expect something very new and startling. I more than half believe that you will approve of my principles, and that some of them will turn out to be those which commonly you, in a measure, apply to practice. If so I would seek to strengthen your approval and to urge a wider and more consistent application. Alas! is it not only too often true, in teaching as in other things, that we see and approve the sound principle, yet continue to follow the unregenerate practice? So heavy are the leaden weights of habit.

I suppose there is no point on which teachers are so universally agreed as this—that for our pupils to gain the truest and most lasting benefit from their work they must throw themselves into it heart and soul—not fitfully and accidentally, but habitually and with intention. We desire, in fact, that the pupil's own self—his own living force—shall become active in its own natural way and continue active. Experience teaches us every day that when this is the case we have the best results as regards development of power, production of skill, and growth of knowledge or the conversion of outer information into an inward possession of one's own. Now it is not enough to *tell* our pupils to be active; nor is the lazy and seemingly short way of prizes and punishments always successful, or successful in quite the right manner—the pupil may be throwing himself into the *prize* when he should be throwing himself into the *subject*. Certainly the self must be made to feel it worth while to be active; but the gain need not be the possessing of a limited concrete prize, or the gratification of anti-social feelings and love of the chase. The exciting and sustaining and directing motives might be, *should* be, other than these,—pleasure in the exertion itself, which is always present when the activity is of the right kind; pleasure in the sense of growing power and knowledge and in the conscious evidence of greater skill, which is always present when the knowledge is the right knowledge, and is put to use, and the skill is exercised on what naturally belongs to child-life and child-knowledge and helps the expression of the child's own idea. But what do I mean by activity or exercise "of the right kind"? I mean that which is called into being at the right time, and is always in harmony with the nature of the thing exercised, and continuously in proportion to its strength. And what is "right knowledge" in the sense intended here? That which the learner or doer feels that he needs, just so much of which is made his as he needs, which is made his when he needs it, and of which he can make some kind of use.

But let us move a step forward, from the consideration of the child's nature to that of the exercise itself which is to educate him. Not only is it to be rightly timed, in harmony with his nature, and in continuous proportion to his strength, but it is also to help him to make use of his knowledge, to give expression to ideas which have become his own. In our school-work—if we do by chance attend to anything beyond the taking in of knowledge—we are far too much given to acting as if our pupils had but one means of expression—language; though we know perfectly well that there are others, such, for instance, as gesture, action, tone, and, above all, expression by means of the concrete, and by drawing. If we are really in earnest about this matter, if we really desire to give our pupils plentiful and adequate means of expression, we shall not, I think, continue to restrict their schoolroom activities to language, but supply them with opportunities for using, and encourage them to use, *all*

those means which nature, or human contrivance working through nature, has placed within their power. And we shall be the more inclined to do this if we bear in mind how the use of knowledge in expression helps to increase and clarify knowledge itself. I have so recently, and in this very room (see *Educational Times*, May, 1892), dealt so fully with this topic, that I will only remind you now of what is familiar to us all, that "we never know the real nature, the real extent, the real value of our knowledge, till we try to do something with it. When we have learnt some rule, some method, some process, and then endeavour to put it into practice, often enough we find we have deceived ourselves with regard to our mastery of it; we find that our knowledge was not accurate, was not connected, and that we did not see how it applied to many cases, and in particular to the case before us; and so we are led to reconsider the matter, and to observe it again with wiser and more seeing eyes, until the truer meaning flashes upon us. In this way a truer assimilation is produced—for what is being learnt is brought into truer relations within itself and with other things—and chiefly in this way does knowledge grow." Let us, for purposes of reference, call the process of giving one's own expression to one's own idea, or mental picture, *creativity*. We shall not, I trust, confuse it with giving expression to ideas which have never in any sense become our own, or whose possession has long since faded into unconscionness.

One more step forward, and I have done this part of my theme. Let us pass from the exercise, considered in one of its most striking aspects, to the material, or subject-matter employed. Here, too, I shall restrict myself to one indispensable principle. I think you will all agree with me, that information becomes knowledge when we understand it—understand it in such a way as to be able to put it to its simple natural uses. To understand a fact or a thing is to assimilate to, or class it with, other facts or things; or, if the thing be complex, we may go further, and seek to comprehend the relations of its parts to one another and to the whole, and note how these relations resemble, or differ from, those in the cases of other complex things. The history of the growth of human knowledge has been the history of growth in the comprehension of the relations between things—based on careful observation and experiment. We, as teachers, should bear this in mind—that to produce understanding we must make clear and establish relations; to make a new *subject* intelligible to our pupils we must make clear and establish not only the relations of its parts to one another, but also the relations of the subject as a *subject* (or a part of knowledge) to other subjects (or other parts of knowledge) already known. And more than this, we *maintain* those relations, widen and deepen them, and add to their number. Moreover, we must remember that interest, on which attention mainly depends—and both interest and attention are most potent stimulators of self-activity—interest lies in connexion, not in isolation. And therefore, since the young are weak in futurity, and their interest very fluctuating, we must maintain and refresh this connectedness of our subject with others if we wish to maintain and refresh interest—never forgetting that interest in a fact or a thing, if it is to be lasting, must lie in the multitude and nature of the connexions and suggestions of the fact or thing. The separation of knowledge into departments, subjects, distinct studies, is the work of the adult, and is for the adult—a plan by which he can secure better observation and more definite experiment in his work as an adult, and more particularly as a scientific inquirer, and an increaser of knowledge. But to the child all knowledge which interests him comes as one subject; and this withdrawing of attention from knowledge as a whole, and concentrating it continuously on single parts, this abstraction, is, like all other abstraction, very difficult for a child, and very little interesting to him. It seems to me that it is our duty as teachers, not to destroy this sense of unity and connexion, however imperfect it may be, but to *make use of it*, and to enlighten and guide it—for do we not daily find it true that "in education, as in much else, the most lasting success is to be achieved only by rendering our measures subservient to that spontaneous unfolding which all minds go through in their progress to maturity"?

My principle, then, is that in the work of our junior forms we should maintain the closest possible connectedness between all the subjects of the curriculum: a connectedness that shall, as far as possible, make all the other knowledges of the child enlighten, enliven, and so render memorable the particular lesson he is learning: a connectedness that shall bring all his subjects together, and *keep* them together, as parts of one

organic whole.* Alas! instead of doing this, do we not—even if at the beginning of a subject we make some slight effort to connect it with others—do we not hasten to treat it as a thing in itself and for itself, having little or no relation to anything else, and nothing else having much to do with it—isolating and specializing it, while all the time we are proclaiming that we do not believe in specialization for the young? If I might use a metaphor, I should say that in early youth the various knowledges seem to me like the plants in a garden—likely to become sterile if the busy workers do not pass freely from flower to flower.

I might, perhaps, have brought forward other general principles, but these will be enough for this occasion: self-activity, creativeness or the many-moded expression by oneself of one's own ideas and mental pictures, and the inter-connectedness of school subjects.

Some time ago when I was working with some students who intended to become schoolmasters, after we had studied with not a little care the characteristics and causes of mental activity and mind-growth, and the nature of knowledge and knowledge-growth, as well as the application of all this to the practical work of teaching, it struck us that it would be interesting, and perhaps useful, to make a list of all the subjects which are, or might be, used in schools, and to set down against each its values in various mental exercises, and its value as a part of knowledge for the young—or, as we might say, its *educational* value and its *instructional* value. We then divided up school-life into four periods: A, 7 (or 8) to 9 (or 10); B, 9 (or 10) to 11 (or 12); C, 11 (or 12) to 13 (or 14); and D, 13 (or 14) to 18 (or 19). And, lastly, taking into consideration the two values mentioned, we marked the period or periods to which each subject seemed to belong.† I will not trouble you with the details, but will give you the results for the two earlier periods which cover the ages 7 (or 8) to 11 (or 12), and so include our junior forms. In making our valuation we might, of course, have applied other tests—as, for instance, the value of subjects for winning scholarships, and the value of subjects in advertising the pupil and his school—but we were afraid that these might confuse the issue. Here are our results slightly amended:—

A. Seven (or eight) to nine (or ten) years of age.

- (a) Singing, Reading aloud, Reciting.
Drawing, Writing.
Manual Training (*including modelling in clay and cardboard, paper-folding, paper-plaiting, &c.*).
- (b) Nature-knowledge (*observation and the beginning of classification*), viz., informal Botany and Natural History.
Geometry (*practical and concrete, as the study of form*).
- (c) Mother-Tongue (*mainly orally, and in connexion with Writing, Reading, and Nature lessons*).
Simple Literature (*as far as possible connected with plants and animals and with child-life*).
English History (*constructive imagination and simple emotions—anecdotes, striking events, and characters—particularly anything connected with the pupil's own locality*).
- (d) Arithmetic (*frequently mental, and in connexion with the concrete*).

B. Nine (or ten) to eleven (or twelve) years of age.

- (a) As before—the Manual Training now including simple wood-work.
- (b) Nature-knowledge, as before, and now including some informal study of *Material*, and some common familiar objects.
Geometry, as before—with the beginning of *Theoretical Geometry*.
Geography (*as far as it concerns the study of personal surroundings, and in connexion with Nature lessons*).
- (c) English Grammar (*in its broader and more general aspects and as an introduction to grammar in general*).
English Literature (*constructive imagination and simple emotions*).
English History (*ditto*).
Geography (*constructive imagination—as far as concerns the realizing of localities not seen*).

* For a full treatment of this principle, see my paper on "Connectedness in Teaching" in the *Educational Times* of June, 1890.

† See "Order of Studies" in the *Journal of Education*, Sept. 1886.

French (as little as possible a matter of grammar at first, and largely oral).

The beginning of *Latin* (towards the end of the period).

(d) Arithmetic.

Simple Theoretical Geometry (towards the end of the period).

I leave it to each school to decide what shall come under the head of *Religious Teaching*; and of course in both periods *Physical Education* must be adequately provided for. In girls' schools *Needle-work* would probably be demanded by the parents. I must add that we took it for granted that up to the age of seven or eight the pupils had been in Kindergarten and Transition Classes, and that the general methods of these would still make themselves felt in our two periods—strongly in the first, and not so strongly in the second; that, in fact, there should be no discontinuity, but a gradual development of method following the development of the child and of his knowledge.

I have now to show how my principles of self-activity, creativeness, and connectedness apply to this curriculum—omitting what refers to ethics and religious teaching, and touching only very lightly on æsthetics.*

SECTION (a).—*Singing, Reading aloud, Reciting, and Writing* need not detain us now; but I must say a few words about *Drawing*. If it is to satisfy the conditions of self-activity and creativeness, if it is to be, that is, largely the pupil's own expression of his own ideas and mental pictures, we must introduce into it much more invention, freedom, and imagination than we usually do, and give up trying to astonish parents and friends by premature unreal performances. Mere imitation and the copying of designs must fall into the background. The ideas and mental pictures the pupil will get from his plants and animals, common objects connected with these and his everyday life, his literature, and his geometry—and later on from his history and his geography. But the most valuable sources will be plants and animals and literature. Drawing is not only connected, directly or indirectly, with all the other subjects, and so may derive meaning and help from them all, but is also a link-subject keeping those other subjects themselves in close connexion. As a means of self-expression for the young it has no superior; and it is of the greatest assistance in furthering and fostering close observation, and in clarifying the mind by giving objective form and definiteness to pictures and ideas which the pupil has conceived or is conceiving—thus, too, revealing the working of that mind in a very striking manner to teachers who will take the trouble to study and understand the picture-speech of children. As a distinguished German writer on education has said: "Even if these representations are imperfect and fall far short of their originals, the eye is at all events aroused and stimulated to observe with greater precision than before the object which has been represented, when next it actually comes before the child in nature or in life. And so by means of perhaps a very imperfect outward representation the inner perception is made more true."

All this applies equally to *Manual Training*, which is own sister to Drawing. We must induce the pupil first to form the idea or mental picture, and the desire to express it, before ever he begins to handle the paper, clay, or wood, if we mean to produce any intellectual effect or create true skill—and if we do not, *Manual Training* has no right to a place in a general liberal education. The idea need not be complete in every detail beforehand—it may grow, it *must* grow as the work grows beneath the hand—but in its characteristic features and general outline it must pre-exist if the work is to be truly educative; while only when the details are seen and felt to be efforts to realize an idea already understood will they themselves be interesting and afford scope for invention. The thought must govern the process, and not the process the thought. In this way, too, we shall learn to be less fretfully impatient of early inaccuracy, and endeavour to develop it into accuracy, instead of merely dragooning it. You can no more produce intelligent accuracy by penal laws than you can virtue. Nor will you effect your aim unless both the material and the tools are well within the worker's mastery, and the material itself well fitted to give the idea adequate expression.

SECTION (b).—By *Practical Geometry* I mean something more than mere work on paper with ruler and compasses—wherein general truths are assumed, and attention is given only to their application. I mean also work in observing and manipulating

the concrete—if my three principles are to have fair play. As such, as the study of the forms of concrete things, it is closely connected with Drawing and Manual Training; and also, though not so closely, with the study of plants and animals. With the growth of the observation of the relations of parts to one another, and the increasing appreciation of symmetry, the opportunities for self-expression and invention rapidly become numerous; and the reasoning, which is soon called into play, leads us steadily forward to *Theoretical Geometry*, the results of which should frequently be brought back and applied to the concrete.

I am almost afraid to speak of *Nature-Knowledge*, lest, when once launched, I should be unable to stop. The subject, when rightly dealt with is so fascinating and so many-sided. But I will compel myself to be brief. First, then, by the study of plants and animals I do *not* mean the study of books and pictures—though books and pictures are helpful at the right times and the right places. I mean the study of plants and animals familiar to English children, whenever possible living, and in connexion with their habitual localities; books and pictures will help us to get further afield later on. I am not aiming at formal Botany and Natural History at present—these belong to later stages—but at the *informal* beginnings of these. Plants, as far as possible, should be studied *growing*; and the greater number of them as wholes—plant, flower, seed, seedling. We shall not require a microscope at this stage. Such characteristics as may be seen by the natural eye will be quite enough for our observation and consideration at first. And since the plant is to be living, its habitual locality must also be observed and considered as far as is in any way possible. So, too, animals should be studied, whenever possible, alive. Some of the smaller ones, especially birds, might very well be kept in school or playground. We do not want their anatomy much at first. What we observe and consider should be their external characteristics, habits, and mode of life, and their commonest haunts. Both plants and animals should be treated as part of the child's natural environment; and in this way are closely connected with that part of *Geography* which concerns his own study of his personal surroundings. The keen interest excited by this subject when treated in this way gives rise to abundant self-activity, and fosters expression in many directions—drawing, modelling, verbal descriptions, anecdotes, &c. So it links itself to the use of the *Mother-Tongue*, to simple *Literature*, and to *History*—at least to local history. The lives of plants and animals, and the uses of plants and animals to man, lead us to the consideration of *Material*, and of man himself, and his influence on localities, and that of localities on him. And so we pass on—never losing the impulse and guidance of living, growing interest—out into the great world of commerce, out into *History*, and into the *Geography* of localities not yet seen, but already interesting, because imagination has already filled them with human beings who strive and do, and with the many other living things that are new and wonderful.

I will not stay to describe the *Geography* which comes under this section. It is the child's own study of his surroundings, centred by his home and school—which is the beginning of Physiography, and the absolutely necessary first stage in all study of Geography whatsoever. It naturally links itself to his Drawing and Modelling; and has very little to do with books, except on the side of History. Of its connexion with local industries there is no need to speak.

SECTION (c).—In my second period (nine to eleven years of age) I have mentioned *English Grammar* as a subject. Let me explain myself. I do not mean the elaborate study of details, modern or ancient; but the study of the main facts and principles relating to words, and their functions as parts of speech, their inflections, sentence-building, and word-building. I have so often described the *inductive* method,* which I advocate, that

* For my views on these points I refer my readers to the following papers: "The Training of the Intellectual and Æsthetic Sentiments," *Journal of Education*, September, 1887, and "The Training of the Ethical Sentiment and the Will," *Journal of Education*, Nov. and Dec., 1888.

* The method is briefly this:—The pupils first observe the functions of words in a sentence—state what the words tell us. In a particular sentence, for instance, they leave out the word under observation, and they also substitute for it others which make sense. Then they compare the original, the maimed, and the new sentences, and arrive at a rough estimate of the value of the word in question in that sentence. Having done this with several words in many sentences, they group those words together which have the same function. Then later they group the functions according to similarity, and make a rough definition for each group. By applying the definition to fresh instances they gradually clarify and perfect it—the sole condition being that at every stage it shall fairly represent what the learner actually knows. The same plan is applied to inflections, analysis, functions of tenses, order of words, word-building, &c.

I need only remind you that it calls the learner's self-activity into play, and exercises him in observing and reasoning, while its constant reference to the meaning of words and sentences makes it of some real assistance in his study of literature—which is not the case with grammar as commonly studied. If next we look at the vocabulary and seek the sources from which it has been derived, we are led out at once, and in a most interesting way, into the domain of history and to facts which specially connect themselves with special localities. My only advice here is, do not overdo it or try to make the facts mean too much; nor should you at this stage attempt much in the direction of phonetics. The point for which I would chiefly and most earnestly plead is that the pupils should study English grammar as an introduction to *General* grammar—the general laws which language (or at least most European languages) must obey when regarded simply as the vehicle for expressing thought—the general principles which govern the relations of subject and predicate, verb and object, cases, tenses, and the like. It is because all this is left so vague and confused, that our pupils find the grammar of a new language, ancient or modern, so hard to grasp and master. They have never realized what grammar is.

On the teaching of *English Literature* I have more than once addressed you; and I have even been guilty of publishing a small book on the subject. I will not repeat my views now. I will only point out that, if my three principles of self-activity, creativeness, and connectedness are to be applied, we must make our teaching of literature far more an exercise of our pupil's own constructive imagination and simple emotions than we ordinarily do; we must encourage them to express the ideas and mental pictures which the literature calls into being by means of drawings of their own—or “graphic representation,” as I prefer to call it—as well as by words; and we must recognise and appeal to the pupil's own experiences, ideas, and feelings to a much greater extent than I fear is at all common. We may even, and with great effect, at times encourage dramatic action or expression. The subject-matter, too, must be such as they can fully understand and enjoy.

The *History* of our two periods is closely akin to literature, and most of what applies to one applies to the other. We want more attention to constructive imagination and simple emotions; and all that will help these in the way of pictures, plans, rough models, maps, &c., should be used, and used freely. Much should be made of any institution, building, event, which the locality supplies. Moreover, the pupil's own experiences and knowledge should be utilized in making things clear whenever possible—*e.g.*, modern emigration will help him to understand the invasions of Saxons and Danes, and so on. The main characteristic of the teaching in our earlier period should be, I think, to deal only with prominent personages and prominent events from the coming of the Saxons to the present day, and to treat these with regard to action, personal adventure, personal characteristics. In the second period I would cover the same ground, introducing now secondary events and persons as well, and touching on causes and consequences; and I would begin to sketch the first ideas of a state and to implant the first ideas of public duty. I might even begin to scatter the seeds of curiosity as to what other nations were thinking about and doing in such and such years. I certainly would not worry my pupils overmuch with dates and lists of names. My aim would be to give them an appetite for and a delight in history rather than to fill them with facts and information. Naturally *Geography* is closely connected with most of all this—especially that geography which exercises the imagination in realizing the appearance and properties of localities which have not been seen. As I have said, the subject should begin with the pupil's observation of his own habitual surroundings, and the picturing and plan-drawing of the same. In the plan-drawing in particular the pupil will learn the need for and the meaning of proportion—relative positions, relative directions, relative areas. From these will come his sense of the need for fixed lines of reference, or a fixed line and a fixed point; which again give him an easy glide into the ideas of latitude and longitude and the reason for Greenwich. At this stage his map-drawing is solely of the localities which he personally knows—it will have no meaning otherwise. Then follows the forming of mental pictures of the localities somewhat like his own (in the first instance), but which he has not seen, by the help of what he knows of his own locality, and pictures and rough models, and characteristic facts relating to the new locality. When the mental picture has been formed, then and not till then should come its representation in ordinary map fashion; and then the interpretation of other maps

of other localities; while the whole, as I have shown, may be kept fresh and interesting by introducing the men and plants and animals which live therein.

I have now to speak of *Latin* and *French*. The former I introduce “towards the end” of my second period. Mr. Thring said that ten was quite sufficiently early an age for beginning *Latin*. I will go further and say that eleven is better still; while for girls, if they are to learn it, thirteen would be soon enough, since at present their preparatory school is not a separate institution. It hardly belongs to my periods, therefore, and all I need say is that I think the general plan of *Gradatim* the best to begin with—only that the introduction should be somewhat fuller, and some varied re-translation (which requires thought as well as memory) should be added. In fact, I would make the plan somewhat more like that which I would use (and have used) for *French*. In the case of the latter the plan I would follow is this: I would choose some simple short anecdote or story; taking two or three of the first sentences I would repeat them aloud several times, first alone, then the pupils with me, and then the pupils should repeat by themselves; then I would write the sentences on the blackboard; then we would repeat the sentences again aloud; and lastly the pupils would copy them. The translation would be given in exactly the same way; and then the words which correspond would be indicated. Then would follow the translation, at first oral and then written, of short but partly new sentences in both languages, formed from the material acquired. After a dozen such lessons we, my pupils and I, would now and then stop and codify such accident and elementary syntax as had come before us, bringing in for comparison such of our knowledge of the mother-tongue as might seem likely to help us. When the pupils had got in this way some *feeling* of the grammar, and some informal knowledge of it, a formal grammar would be introduced, first as a book for frequent reference, and then later as a book to be carefully studied. Meanwhile some more extended translation would have been begun, the subject-matter of which should be such as the pupils can understand and are likely to care for. I need not carry my description further. You will see that throughout my endeavour is to foster self-activity and creativeness.

SECTION (d).—I have already pointed out how I think *Geometry* should begin. I will only add that the transition from practical to theoretical should not be hurried over, and that the meaning and nature of the change should be made quite clear—the change from particulars to generals, closely resembling that from Arithmetic to Algebra. I would then follow the plan laid down by the Association for the Improvement of Geometrical Teaching in their excellent little *Elements of Plane Geometry*, and supplement this by constant use of Dr. Wornell's well-known *Modern Plane Geometry*. I do not believe in the order of Euclid for beginners—even when the book is translated and edited as ably as it has been by Mr. Deighton.

I have left myself no time to speak about *Arithmetic* as it deserves. My advice shall be short. Eschew as far as possible long exercises of sums all done on one pattern, and exercising the pupil only in the manipulation of figures. Introduce the necessity for some little *thought*; in other words, use problems in preference. And to make these interesting, take them as far as possible from matters which belong to the experience of the pupils and to the world actually around them. Seek to make the meaning of the work quite clear—a mere acrobatic ingenuity in figures, whatever other value it may have, is not educative. The subjects of Mathematics have a strong tendency to become very soon isolated from the other subjects of the curriculum. Try to delay rather than to quicken this tendency, by connecting the problems with matters relating to the other subjects.

Here my thoughts must end for the present. I have exhausted my time—not my subject. I trust I have not exhausted you. The principles I have dealt with are principles derived from the study of mental activity in the young, and of schoolwork. If they have been correctly derived, and if the application of them has been rightly made, the results must needs be right. These, however, are big *ifs*. But has the general plan ever been actually tried in anything like completeness? Yes, in many places, and in London amongst others; and it is still at work, and successfully at work. So convinced are many of us who have looked into it of its value, that we are arranging to start the plan on a large scale at Kensington, and the Empress Frederick of Germany has promised that, if she comes to England next year, she will inaugurate our institution. Our desire is that

teachers and the public shall have an opportunity of seeing what the method is like in practice and in its results. The endeavour, as you have seen, will not be to increase the work of our junior forms, but to get better educational results from what is done. We want criticism, and we invite it; and that is one of the reasons why I have ventured to set before you to-night some of the main principles and methods, and to ask you to say what you think of them.

Mr. BRUCE said that before beginning to train the mental side of a child it was necessary to have a thoroughly sound physical basis to work upon. He did not consider that sufficient attention was paid to physical training, especially in the case of young children. With regard to the teaching of drawing, he thought that teachers paid too much attention to form, and that more care should be taken to train children to appreciate colour. He thought that the teaching of Latin should proceed as far as possible on the same lines as the teaching of the mother tongue.

Mr. PHILLIPS said that his experience differed from that of the lecturer on one or two points. With regard to the teaching of French, he thought the best plan was to take a word or two at a time, write them on the blackboard, and then form a sentence by the addition of a verb. In this way a beginner soon acquired a vocabulary, which was a most important factor in learning a foreign language. He had seen Latin taught with great advantage to young boys, and thought this subject might be commenced at about the age of nine.

Mr. ORCHARD agreed with what Mr. Bruce had said as to training beginners in drawing to discriminate colour as well as form. He thought it better to take elementary arithmetic and geometry together, rather than separate them into different sections. It was a great difficulty in teaching to make knowledge definite, interesting, and rememberable, but the principles laid down by the lecturer went far to bring about these desiderata. In order to make knowledge definite it was important that the learner should be able to express his knowledge in his own way. In order that a lesson might be remembered, association of ideas should be employed. This association of ideas should always be pleasant and agreeable—the teacher should bring in what the lecturer called the living power of the child. Children were interested in what concerned themselves and in what they did themselves, rather than in what anybody else did. In the teaching of geography, for example, special reference should be made to the topography of the immediate neighbourhood, and thus the child could be gradually led on to further knowledge.

The CHAIRMAN said that he agreed with the broad general basis of the lecturer's position, because he had followed the natural rule of trying to familiarize the young mind with the concrete form rather than with anything abstract. It was a great mistake in teaching to endeavour to force the young mind to deal with the abstract. He was especially anxious to hear what the lecturer had to say with regard to the teaching of grammar, a subject most difficult to teach to young minds. So long as children were asked to be able to give definitions of that which it took a philosophic mind to comprehend, and which was only attained after great labour on the part of the adult, it seemed to him that the child was only being put through a mill, that he did not understand the process through which he was going, and that he had gained nothing tangible at the end. He was glad to see, however, that this difficulty would be obviated by following the principles laid down by the lecturer.

Mr. BOWEN having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

THE ELEMENTARY RULES OF ARITHMETIC.

By J. A. ROBERTSON, Associate of the Faculty of Actuaries in Scotland, and of the Institute of Actuaries of Great Britain and Ireland.

It is a familiar experience of business men that when they take into their offices a boy fresh from school he can rarely be depended on to perform with accuracy the simpler arithmetical operations—those which involve nothing but the four fundamental rules. And as these are the only operations to which a boy is at all likely to be set, one cannot wonder that there should be a feeling in many quarters that there is too great a difference between proficiency in arithmetic when judged from the school examiners' standpoint, and when tested by the requirements of practical business. The fact is that boys are not sufficiently drilled in the elementary rules; their later years at school are spent in the study of questions which, although valuable enough as mental exercises, do not call for heavy additions, subtractions, multiplications, or divisions. Nor is it always easy to provide examples in this class of work; a subtraction sum takes at least twice as many figures to state as it does to work out, an addition sum much more than twice as many; and should a teacher undertake to set examples of his own, he has all the trouble of checking the results. It is with a view of getting over this difficulty that the following table is submitted: it will be found to furnish the means of setting an endless number of examples in the elementary rules, which examples possess the not inconsiderable advantage of being self-checking; and it is suggested that even after a pupil has passed the more advanced work, frequent opportunities should be taken of exercising him in the way now to be described. It is only by constant practice in adding, sub-

tracting, multiplying, and dividing, that proficiency in these processes can be attained.

In the series set forth below it will be observed that the first and second terms are unity, and that each succeeding term is obtained by adding together the two which precede it. Thus, the third term, 2, is the sum of the first and second terms; the thirteenth term, 233, is the sum of the eleventh and twelfth, and so on. The teacher (who will retain the table in his own hands) will select two consecutive lines—say the twenty-fourth and twenty-fifth—and announce them to the pupil, with the instruction that they are each to be multiplied by some one number—say 12345; that the lesser of the two products is to be placed below the greater, *no line being drawn*, and subtracted therefrom, the remainder to be deducted from the minuend, and so on successively until, after twenty-three subtractions, two lines the same are reached, each line being of course 12345, the original common factor; that the work is then to be added up; and that finally the sum is to be divided by 12345. The resulting quotient should be 196417, viz., the twenty-seventh term of the series diminished by unity, and its correctness will be a sufficient test of the accuracy of *all the intermediate steps*, the chance of so highly improbable an occurrence as a balance of errors being disregarded. The possibility of obtaining this check depends upon the fact that in a series constructed in the way described, the sum of n terms is always equal to 1 less than the $(n+2)$ th term. The scheme of the work would be as follows:—

$$\begin{array}{r} \text{(25th term)} \quad 75025 \times 12345 = 926183625 \\ \text{(24th term)} \quad 46368 \times 12345 = 572412960 \\ \qquad \qquad \qquad 353770665 \\ \qquad \qquad \qquad 218642295 \end{array}$$

$$\begin{array}{r} : : : \\ 24690 \\ 12345 \\ 12345 \end{array}$$

$$12345 \text{) } 2424767865 = \text{Summation}$$

$$196417 = 27\text{th term less unity.}$$

The same process may be adapted to compound quantities by selecting as the common factor some expression in pounds, shillings, pence; tons, cwt., &c., or the like.

I think it right to state that this process (which, so far as I know, is not to be found in any of the ordinary text-books) was suggested to me by examples in "Successive Subtraction," which used to be given many years ago by the late Mr. A. D. Spence, of Dollar Institution, and I am glad to have this opportunity of paying a tribute to the memory of one who was a skilful and patient teacher, a sound mathematical and classical scholar, and an accomplished musician.

The Table above referred to.

1	.....	1	26	.....	121393
2	.....	1	27	.....	196418
3	.....	2	28	.....	317811
4	.....	3	29	.....	514229
5	.....	5	30	.....	832040
6	.....	8	31	.....	1346269
7	.....	13	32	.....	2178309
8	.....	21	33	.....	3524578
9	.....	34	34	.....	5702887
10	.....	55	35	.....	9227465
11	.....	89	36	.....	14930352
12	.....	144	37	.....	24157817
13	.....	233	38	.....	39088169
14	.....	377	39	.....	63245986
15	.....	610	40	.....	102334155
16	.....	987	41	.....	165580141
17	.....	1597	42	.....	267914296
18	.....	2584	43	.....	433494437
19	.....	4181	44	.....	701408733
20	.....	6765	45	.....	1134903170
21	.....	10946	46	.....	1836311903
22	.....	17711	47	.....	2971215073
23	.....	28657	48	.....	4807526976
24	.....	46368	49	.....	7778742049
25	.....	75025	50	.....	12586269025

The ninth annual competition in the French language and literature, instituted by the Société Nationale des Professeurs de Français en Angleterre, will be held on the 4th inst. Prizes and the gold and silver medals of the Minister of Public Instruction and the Alliance Française will be allotted as in former years. The Society is about to institute examinations for commercial certificates in French. The first of these will be held next March.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—Entrance scholarships of the value of £150 and £60 respectively have been awarded to Mr. R. Wynn Pierce and Mr. H. E. Hewitt.

THE ABOLITION OF THE ABNORMAL BOY.

(BY ONE WHO DOES NOT BELIEVE IN IT.)

A REPORT which has recently reached me from the Washington Bureau of Education drops necessarily into the Humanitarian tone, the tone of the earnest well-meaning person inspired by a virtuous passion for tampering with the future of mankind. Perhaps the most remarkable thing about the circular is the bland unconsciousness with which the compiler has refuted the underlying principle of his report. The suggestion of the entire work is the problem of what to do with the feeble classes of the community; it is a study of ways and means to check alcoholism, to interfere with marriage, to separate children from parents, to bring statistics, propaganda, and law to bear upon all who diverge from the accepted rule of conduct, the accepted lung capacity, the recognised correct thing in skull measurements and finger prints. The abnormal human being is to be abolished. And all the time the inevitable result of this proposed rule of the world by the prison chaplain, militant medico, and anthropometrie amateur, is clearly set forth in the same book. In the chapter devoted to "Insanity and Genius," it is proved up to the hilt that genius is engendered under conditions identical with those which lead to the appearance of epilepsy and other nervous disorders, and a long list is given of great men, who had relatives of feeble intellect and sickly constitution, and were themselves, like Tasso, Swift, Mozart, Haydn, Blake, Poe, Cowper, Turner, Lamb, and Goldsmith, upon the very verge of unreason. It follows evidently enough, though it clearly has not struck these social reformers, that any interference with the output of mental cripples will proportionately rob us of our mental athletes; that the noxious weeds and the wild flowers of humanity must survive or perish together. These people, it would seem, on their own showing, are really proposing to eliminate bad and best at one stroke. They would contribute to the Advancement of Humanity by robbing the world of its leaders. The fact of it is, we do not know nearly enough of sociology yet to say that any class or any type in the community we should be better without—unless it be the too ardent world-mender. For all the genuine scientific knowledge we have to the contrary, the so-called weaker or dangerous classes may prove our Social Nazareth. The abnormal boy therefore may take heart yet, though his anthropometrie results be poor, his cranial measurement be contemptible, and his constitution neurotic, or phthisic, or what not. Pestalozzi, Wellington, Balzac, Humboldt, Boccacio, Linnaeus, and Newton were also after his kind, and, until we can make a net to miss such abnormalities while we catch the harmful ones, it will perhaps be better for humanity if the question of the abolition of the abnormal boy is left alone for a bit.

This absolute inadequacy of our present knowledge of social causation is enforced in another portion of the same report. Many plausible maxims are in circulation that have not the slightest foundation in fact, yet which serve us for guiding principles. Victor Hugo says, for instance, that he who opens a school closes a prison, and this view of the pedagogue as a cheap substitute for the policeman will continue no doubt to confer the blessing of education upon many a life. But, as a matter of fact, Proal ("Le Crime et la Peine") shows conclusively that this is not the case, "criminality in France has not diminished though education has increased," and Nicolay enforces this conclusion. Lombroso finds a higher proportion of criminals among those having the advantage of elementary instruction than among those who are styled in sham-scientific phrase as "analphabetes."

After all the repetition of the ABC is not a charm against wickedness, any more than having eyes makes one more virtuous than the blind; and, if we valued education only for its effects upon criminal statistics, we should have every reason to be depressed. It is clear, in spite of the "social scientist," that, to a large extent, the destiny of humanity is still a matter a little beyond human control.

G. G. T.

LONDON SCHOOL BOARD SCHOLARSHIPS.—The annual examinations for scholarships placed at the disposal of the Board will commence on Tuesday, 5th December, 1893. This year there will be twenty-one scholarships, viz., eleven for boys and ten for girls. The scholarships vary in annual value from £20 to £42. 10s., and are tenable for two to four years. Candidates for the scholarships (with two exceptions) must be under thirteen years of age on the last day of December next, and must have attended a public elementary school within the limits of the metropolis for the period of four years ended the last day of October, 1893.

REVIEWS.

The Handwriting of the Kings and Queens of England.

By W. J. Hardy, F.S.A. (Religious Tract Society.)

Many of the sections of this book originally appeared as articles in the *Leisure Hour*; but they have been thoroughly revised, and a great deal of new material has been added. The most important part of this new material, we are informed, deals with recent discoveries, viz., of passages, hitherto unknown, in the handwriting of Edward IV., Henry IV., and a signature of Richard II. The illustrations give fine specimens of the handwriting of every English Sovereign examples of whose penmanship have come down to us—that is to say, from Richard II. downwards. The most important documents are reproduced in exact photogravures, and the volume is largely made up of facsimiles. The book makes a double claim upon us—(a) as "a contribution of permanent value to historical literature," and (b) as "an exceedingly handsome gift-book." The second of these claims may be very readily accorded, for in binding, type, clearness of the facsimiles, &c., the large handsome volume before us leaves nothing to be desired. As regards the other claim, we are less confident. Doubtless it is handy to have, within the limits of one volume, specimens of the untidy scrawl of Edward IV., of Edward VI.'s flourishes, of the upright hand of Elizabeth (forming so singular a contrast to her conduct), of James I.'s sprawling characters, in a Scots orthography, of the changing styles used by Charles I., of Henrietta Maria's smudgy composition, of Oliver's jagged affectionatenesses, and of the effusions of George III. in his early and last childhoods. They are interesting to the general reader, and in some cases are directly or incidentally useful to the student—especially the letters of Edward VI.; that of Elizabeth authorizing certain German Protestants resident in London to continue using the church of the late "Augustyne Frears" for "dyvine service," &c., in their own tongue—"so that no right nor use be therein observed contrary or derogatory to our lawes"; and Anne of Bohemia's letter to "my kind dog," Villiers, afterwards Duke of Buckingham. But the specialist must needs seek the originals, the general reader prefers memoirs of backstairs intrigues, and the ordinary student—intent upon matter rather than handwriting—would find Ellis's "Collection of Letters" serve his purpose better. Though we don't quite know what class of readers would profit by the book, we are glad to bear testimony to Mr. Hardy's industry in selection, and good taste, insight, and general accuracy in exposition. There is but one point to which we take exception. In mentioning the usual story about the Prince of Wales's motto, Mr. Hardy not only makes no reference to other theories, but also substitutes King of Bavaria for King of Bohemia. There was, of course, no "King of Bavaria" till after Austerlitz; and the blind King from whom Edward the Black Prince is supposed to have adopted his badge was the Luxemburger King of Bohemia, who had been thrust from his lands by Ludwig, the Bavarian Duke that then was Emperor.

- (1) *The English Citizen: his Life and Duties.* By C. H. Wyatt. (Macmillans.) (2) *Constitutional Reader: a Series of Lessons in the Life and Duties of the Citizen.* (Hughes.) (3) *The Waterloo Citizen Reader.* (Allen.) (4) *The Life and Duties of the Citizen.* By J. E. Parrott. (Allen.)

All these volumes are designed to meet the requirements of the new code of regulations for evening continuation schools: they are in fact competing makes of plant meant to turn out model citizens. Whether such books are the best, or even a good, means towards such an end, we may have our doubts; but those doubts need not affect an estimate of the books as carriers of information. All the books deal briefly with the end of the "government" of a "nation" or a "State," especially of a "representative government"; more fully with the functions of our different local bodies and of the departments of our central government; and contain some account of such everyday matters (about which the knowledge of most of us is more than a trifle vague) as the franchise, voting, registration, savings' banks, trade unions, food supply, public charities, hospitals. (1) Mr. Wyatt's is by far the fullest and most readable of the attempts before us, and the various well-chosen and admirably executed prints which Messrs. Macmillan have culled from the *English Illustrated* and their many other publi-

cations to enrich it withal, make it, though the price is sixpence more than any of the others, an extremely cheap, interesting, and instructive volume. The remaining books we should range in the order given above. Large type, systematic arrangement, and general clearness of expression characterize Messrs. Hughes' *Reader*; and the illustrations are for the most part really illustrative. Messrs. Allen's contributions differ from one another only in the fact that (3) is better bound than (4), and is interspersed with some not particularly appropriate or ornamental cuts; and, though the absence of clarendon type makes them somewhat more seemly than (2), this advantage is quite counterbalanced by an incomprehensible classification.

The History of London. By Walter Besant. (Longmans.)

Mr. Besant had shown himself a lover of London old and new in his "Bells of St. Paul's" and "All Sorts and Conditions of Men," long before he sat down and proved that his love was based on knowledge by writing the sketches published last year by Messrs. Chatto & Windus, under the name of *London*. Much of the material for that volume has been worked up again for this bijou history, which is short and cheap, brightly written and copiously illustrated. Many of the illustrations are evidently taken from the same blocks that have already done good service (meetly praised by many reviewers and readers) in Mr. Gardiner's "Student's History of England"; and we know no higher tribute to offer to Mr. Besant's *History* than to rank it as high as Mr. Gardiner's. The *History of London* is well adapted, both by its ease of style and by its appendix of simple and straightforward notes, to be used as a *Reader*; and we sincerely hope that it will be widely used not only in London but elsewhere, and convey to all who use it the lessons which Mr. Besant hopes that it may teach—"the respect that is due to the past and the duty that is owed to the present." We should like to quote the concluding exhortations on both these lessons, but must content ourselves with that which inculcates "the respect that is due to the past":

"Consider how your liberties have grown silently and steadily out of the original free institutions of your Saxon ancestors. They have grown as the trunk, the tree, the leaves, the flower, the fruit, grow from the single seed. The Folk-mote, the 'law-worthiness' of every man, the absence of any over-lord but the king, have kept London free and ready for every expansion of her liberties. Respect, therefore, the ancient things which have made the city—and the country—what it is. Trust that the further natural growth of the old tree—still vigorous—will be safer for us than to cut it down and plant a sapling that may prove a poison tree. And with the old institutions respect the old places. Never, if you can help it, suffer an old monument to be pulled down and destroyed. Keep before your eyes the things which remind you of the past. When you look on London Stone, remember that Henry of London Stone was one of the first mayors. When you go up College Hill, remember Whittington who gave it that name. When you pass the Royal Exchange, think of Gresham; when you go up Walbrook, remember the stream beneath your feet, the Roman fortress on your right, and the British town on your left. London is crammed full of associations for those who read and know and think. You will be better citizens of the present for knowing about the citizens of the past."

It would be difficult to name any feature in the life of those same "citizens of the past" about which Mr. Besant does not tell us something—something interesting, and, as far as we have tested it, something true. He traces the development of London from its early British stage as *Llynidin*, through its Roman stage as *Augusta*, and its ensuing "Saxon," Danish, "Anglo-Saxon," Norman, English stages, down to the Stuart times, when it again becomes (in quite another sense from the first) a *British* city, and finally down to our own, when it is imperial, Britannic. In the course of his sixty-three chapters he touches on or describes, at different periods of its history, the extent, architecture, streets, walls, bridges, and markets of London, always bringing in allusions to familiar names, and giving us their associations: he shows us why men first settled at London, and from the days of Alfred have continuously settled there, what occupations they have followed, how they have dressed, made merry, how they have governed themselves, and how at critical periods they bought at the price of their valuable support—from William the Norman and Henry I., for instance,—yet further privileges; how they have founded churches and religious houses, charities and hospitals; how they suffered from almost chronic leprosy and other plagues of a violence almost unimaginable to us in these days of scientific sanitation; and how oftentimes they faced famine that preyed on themselves and fire that preyed on their houses. His pictures are drawn with

imagination, yet with imagination well in hand; he may insist somewhat too strongly that our institutions "come straight down from Alfred" (unaltered?), or may antedate trial by jury; but as a rule he is unexceptionable. And none can fail to be impressed by seeing a map marked "moor" where now stretches busy Clerkenwell, by learning that old London Bridge survived till 1831, that brick houses and wheeled traffic did not come into vogue till James I.'s reign. In fact, Mr. Besant has once more written what will charm and interest young and old—men and women, youth and maiden, boys and girls.

SHORT NOTICES.

CLASSICS.

Cicero pro Milone. Edited, with Introduction and Notes, by F. H. Colson, M.A. (Macmillan.)

Another addition to the Classical Series for Colleges and Schools, equipped with the usual introduction, copious notes, analysis, and indices. The book appears to contain everything that is needful for the understanding of the speech, and may well stand side by side with Mr. Poynton's edition.

Livy XXI. and XXII. Edited by Prof. J. B. Greenough, and Prof. Tracy Peek. (Ginn.)

This is an American contribution to the already numerous list of editions of these particular books of Livy. There does not seem to be anything strikingly characteristic in the book, unless it be the editors' dislike to definite views on controverted points. For instance, they make no attempt to decide the *crux* of Hannibal's route in crossing the Alps.

Comedies of T. Maccius Plautus. Translated in the original metres by Edward H. Sugden. (Swan Sonnenschein.)

This volume contains a rendering of the *Amphitruo*, *Asinaria*, *Aulularia*, *Bacchides*, and *Captivi*, from which we gather that Mr. Sugden intends to translate the remaining plays in their alphabetical order. By the time he has got to the end, if he maintains the improvement manifested in this volume, he will be a pleasing translator. But he makes a very bad start: his language is "slangy" to coarseness at times, and the metre is certainly more "original" than that of Plautus now and then. However, Mr. Sugden seems to appreciate his subject.

The Siege of Plataea. By J. M. Sing. (Rivington & Percival.)

This little volume comprises those chapters of the second and third books of Thucydides which relate to the fortunes of Plataea. It is provided with Notes and some useful Appendices, and is intended to form an intermediate step between the Greek of Xenophon and that of Thucydides at large.

DIVINITY.

The Revelation of St. John the Divine. By W. H. and G. H. Simcox. (Pitt Press.)

This is the first volume of the "Cambridge Greek Testament for Schools and Colleges" which has come out under the general editorship of the new Norrisian Professor of Divinity, Mr. J. A. Robinson. It is a full, fair, careful, and cautious selection from the mass of commentary which has been devoted to the most controverted book of the Christian sacred writings. The text, beautifully typed, takes up about a tenth of the book; the rest is devoted to a long introduction (dealing with the authorship, canonicity, date, interpretation, analysis, and textual data of *The Revelation*), longer notes, four excursus, and two indexes. The whole forms a very complete and handy manual.

SCIENCE.

Public Health and Demography. By E. F. Willoughby, M.D. (Macmillan.)

This is the third edition of the author's "Principles of Hygiene," so enlarged and altered and revised as to be practically a new book. It deals in a scientific yet simple way with the chief departments of public and private health, and is plainly destined to be the standard text-book on the subject.

Text-Book of Biology, Part II. By H. G. Wells, B.Sc. (Clive.)

Mr. Wells maintains the high level he reached in the preceding part of this work, and we do not know that much greater praise can be given it. We said then that "his practical experience shows itself in every page; his descriptions are short, lucid, and to the point. We can confidently recommend it." This we repeat in connexion with *Part II.*, which deals with the invertebrates and plants. It is planned in accordance with the London University syllabus, but nothing could be more removed from the category of "cram" books. Every endeavour is made to cause the student do his own thinking, and every assistance is given him to induce him to attempt that rare and arduous feat.

Practical Work in Heat. By W. G. Woollecombe, M.A., B.Sc. (Clarendon Press.)

Mr. Woollecombe evidently knows how to teach his branch of science. He does not believe in the mere lecture *plus* demonstrations by the lecturer, during which the class is often indulging in a quite different set of demonstrations on its own account. By his method each boy does his own experimenting. "The apparatus required is inexpensive, and such

as is herein described may be readily obtained or easily made from the ordinary stock of a chemical laboratory. . . . The average number of students in the classes under the author's charge is twenty-two. In practical work they are arranged in pairs, and at the beginning of the hour each set receives a sheet of instructions, treating of the particular experiment allotted to it." And these "instructions," which are clear, concise, and simply worded, form this book. They deal with thermometry, expansions, calorimetry, evaporation, and radiation, and we commend them to our readers.

First Stage Agriculture. By A. T. Burgess. (Hughes.)

A cheap text-book especially adapted to the South Kensington elementary stage, but capable of more extended usefulness. The author has embodied in it lectures given to his own classes at the Polytechnic and elsewhere, and the merest glance at it reveals the fact that he is a practical teacher.

Electricity and Magnetism. C. G. Knatt, D.Sc., F.R.S.E. (Chambers.)

Another book for the elementary stage of the Science and Art Department. Perhaps it goes a little above the absolute needs of the candidate. Now that the standard is raised, this is a fault on the right side.

Electrical Science. By George J. Burch, M.A. (Methuen.)

A well-written book, but insufficiently illustrated. Full, but not too technical. Adapted, as are all this extensive series, to the needs of the omnivorous intelligent person.

The Chemistry of Fire. By M. M. Pattison Muir, M.A. (Methuen.)

Explicit text, which the reader is supposed to illustrate for himself by means of a series of experiments. For these, clear instructions are given. They are all to be performed with a small amount of apparatus (list given), and are well adapted to the needs of class teaching in schools. More figures would greatly improve the book.

Inorganic Chemistry for Beginners. By Sir Henry Roscoe and Joseph Lunt. (Macmillan.)

A small book altogether suited to its object—preparation for the elementary examination of the Science and Art Department. It is the first of a new series. The relative dimensions of author and work are remarkable. Professor Roscoe writing cram books, with questions at the end, is suggestive of a steam hammer cracking nuts.

Chemistry for Students. By John Mills, F.R.A.S. (Sampson Low.)

Would be a first-rate book for school use. The 305 cento illustrations—though some of them are a little odd—(distribution of shadows in Figs. 191, 192, e.g.) are well adapted to school requirements. The book is quite up to date in such matters as the liquefaction of air and oxygen.

Agricultural Botany. By Professor M. C. Potter, M.A., F.L.S. (Methuen.)

Good, thoroughly scientific, and yet thoroughly practical. Special chapters are devoted to grasses and leguminosae, and the physiology is explicit and simple. It would make a good leaving-school prize for a farmer's son.

Coal Mining. By Robert Peel. (Blackie's "Science Text Books.")

A sound little volume, of an elementary character. We find no mention of the coal discovered in Kent recently. Teachers in coal districts would do well to read this book.

Blackie's Science Readers. No. VI. (Animal and Plant Life.) By the Rev. Theodore Wood, F.E.S.

Good reading generally, but the exaggerated description of the cuttlefish might make nervous children dream. The tabular view of the animal kingdom, at the end, is old-fashioned, and the synopsis of doubtful value.

The Temperance Science Reading Book. (Jarrold.)

Entertaining text and plenty of illustrations. Those who think our future rulers will learn to abstain from liquor by being told in their childhood that "alcohol is altogether an artificial product" (like modern education), or will be stayed in their downward path by quotations from "Homer, ABOUT 900 B.C.," will appreciate this book. But, perhaps, they had better not pursue their studies of the able writer last referred to much further—even in translations.

ENGLISH.

Shakespeare's Julius Caesar. Edited by T. Duff Barnett, B.A. (Bell.)

Mr. Duff Barnett's useful "notes" are well known to such as prepare pupils for the Local Examinations. He is not deep or learned or scholarly, confining himself mainly to extract of Abbott, Skeat, and Morris; but he is thoroughly practical—the aim in view being the acquirement of a certain number of facts—and is generally more popular with learners than the vastly more erudite Mr. Aldis Wright. This volume contains the "notes" aforesaid, together with the text.

(1) *Lycidas*; (2) *L'Allegro*. Edited by O. Elton, B.A. (Clarendon Press.)

Cheap booklets, in paper covers, provided with brief introductions, and with notes scarcely double the text in length.

Byron's Child Harold. Edited by H. G. Keene, M.A. (Bell.)

Mr. Keene's literary criticism is commonplace, and his annotation futile. Byron speaks of "the blue rushing of the arrowy Rhine": Mr. Keene tells us that the Rhine is swift and blue. Byron praises the inhabitants of the mountain village where Petrarch died, for offering "to the passing stranger's gaze his mansion and his sepulchre": Mr. Keene explains that "the house of Petrarch is shown as well as his

tomb." Byron uses the phrase "Tells ye": and Mr. Keene sapiently observes that "'Tells you' would be more regular." If anyone wants an elaborately annotated and be-commented Byron—which we do not—let him spend his money not on Mr. Keene but on Mr. Tozer (Clarendon Press).

Hereward the Wake. Abridged for Schools. (Macmillan.)

The way in which this historical novel has been shortened so as to fit it for use as a school Reader reflects great credit on the unnamed editor. He has contrived to reduce it to the requisite dimensions without interfering with the flow of the narrative, mutilating the descriptions, or spoiling Kingsley's style. This is very clever, and will, we hope, make the little volume widely popular. While we regard it as sacrilegious to treat the great authors in this way, we cannot pretend to feel shocked at an abridgment of "Hereward." The subject matter is sure to interest boys and girls—an essential to the success of a reading-book—and great discretion has been shown in the brief clear explanation of difficult words, and difficult ones only.

The New Readers, Books IV. and V. By Professor Meiklejohn. (Holden.)

The fourth book deals with wild animals, adventure, and moral tales; the fifth with heroes, heroic men and deeds, and nature at work. Both are interspersed with first-rate illustrations and unusual bits of verse; and have spelling addenda. Both matter and style are at once well suited to the purpose and well worthy of Professor Meiklejohn's reputation.

MODERN LANGUAGES.

Rivington's "Advanced" Texts (German).—(1) *Wildenbruch's Harold*. Edited by A. Voegelin, M.A. (2) *Heyse's Kolberg*. Edited by R. H. Allpress, M.A. (3) *Treitschke's Das Deutsche Ordensland Preussen*. Edited by H. S. Lyon, M.A. (Rivingtons.)

The principal attraction of Wildenbruch's tragedy of *Harold*, for English readers, will be the circumstance that it treats of the most important episode in the history of this country. As a play it is devoid of all dramatic interest, and the first three acts in particular drag on in a most tedious manner. The language is distressingly bald and prosaic nearly throughout. Herr Voegelin's notes, more especially the historical ones, are on the whole very good and well written, but he would have greatly improved his work, about which he seems very earnest, if he had given more help-notes to some difficult passages, such as Eduard's longer speech on p. 93. The type of the book is very clear and good.

Far superior, more especially as regards language and rhythm, is Paul Heyse's *Kolberg*. Heyse is a poet, and his language never sinks down to prosaic platitudes, but he is no dramatist. This defect is also visible in his patriotic play *Kolberg*, which nevertheless furnishes very interesting reading. Mr. Allpress's notes are short and generally to the point and correct. Some of them require correction, such as that *steehen*, at cards, denotes 'to trump,' whilst it simply means 'to take.' The saying of Frederick the Great with reference to religious tolerance is wrongly quoted. The editor ought to have given a compact historical introduction, instead of referring the young readers to Schöplein's monograph, "On the Siege of Kolberg."

A thorough knowledge of German is required in order to enable the reader to fully understand and appreciate Treitschke's learned historical sketch, which, like nearly all his works, is written in a florid and stilted style. The editor has certainly taken great pains with the historical notes, which are in general very satisfactory, though often too prolix. The "help-notes" are also good, but rather scanty. The very first sentence of the book, *Der helle Tag des alten deutschen Rittertums ging zur Rüste*, would have furnished material for an interesting and useful note.

Petite Histoire de la Littérature Française. By D. Duval. (Isbister.)

This is one of the latest outcomes of the development of the study of modern languages in the United States. It has no higher ambition than that of being a *précis*, and the fact that it is acknowledged to be made up of heterogeneous tit-bits explains the diversity of styles therein exhibited. Each successive period passes duly before our eyes with its muster of literati, poets, and philosophers; but in this panoramic survey we gain little knowledge as to the influences at work which gave rise to the marked differences in the literary productions of each succeeding century. On the whole a very readable compilation, which might be advantageously used as a French Prose Reader in upper classes.

French Classics for English Students.

Messrs. Williams & Norgate are re-issuing this series of theirs in paper and cardboard covers at a greatly reduced rate, without any alteration in the printing or paper. We have before us Mr. G. H. Clarke's useful editions of *Le Misanthrope* and *Les Fourberies de Scapin*.

Elementary German Prose Composition. By E. S. Buchheim. (Clarendon Press.)

"The present volume is intended as an introduction to German prose composition, and it has been so arranged that students can use it as soon as they have mastered the essentials of German accidence." Miss Buchheim's book is in some sort a preliminary to her father's more elaborate work on the same subject, and is distinguished by many of the same admirable features; the extracts are carefully graded and are interesting in themselves; the notes are helpful and rarely superfluous; the grammatical appendix gives the chief "rules" in a simple and well-

arranged form; and the vocabulary obviates the use of a dictionary. It is the best "first book" on the subject with which we are acquainted.

Prinzessin Ilse. Edited by A. von Ravensberg. (F. Norgate.)

This pretty tale of Marie Petersen's is well adapted for young students. It is short enough to be got through by a class in one term. Herr von Ravensberg modernizes the spelling, and gives us a vocabulary. A little annotation might have been useful, but possibly the editor has learned from experience that the English boy does not often look at notes.

A Third French Reader and Writer. By L. Barbé. (Sonnenschein.)

This is the latest addition to the well-known "Parallel Grammar Series." The French and English pieces pair very neatly, and a creditable amount of pains has been taken to arrange them so as to illustrate definite grammatical rules. There is a good English-French vocabulary.

German Prose. By Anton J. Ulrich. (Williams & Norgate.)

Passages for translation into German, with brief "aids" and a vocabulary. Some twenty pages consist of extracts and questions set at various examinations. The book will doubtless "do" as well as another.

MATHEMATICS, &c.

Elementary Geometry of Conics. By A. Mukhopadhyay, M.A. (Macmillan.)

The curves are not defined as sections of a cone, the author intending the volume for the use of those who have not got beyond Euclid, Book VI. For this reason no use is made of projective methods, and no treatment is attempted of general properties of conics. Parabola, ellipse, and hyperbola are taken in order, and Mr. Mukhopadhyay's arrangement of the propositions is excellent. His proofs are always neat, and his collection of examples is good. The figures—white on black—are very well executed.

(1) *Key to Warren's Elements of Plane Trigonometry.* (Longmans.)

(2) *Key to Loney's Elements of Statics and Dynamics.* (Cambridge Press.)

Neat solutions which should be useful to teachers and private students.

GEOGRAPHY.

The Unrivalled Atlas. (W. & A. K. Johnston.)

A good bargain. There are forty maps (including two of the Ancient World, astronomical maps, and physical maps of the British Isles and Europe, all accompanied by letterpress), and an index of 20,000 names. And these maps are for the most part full, fair to look upon, and tricked out with such aids as the insertion in the margin of the names of important towns on the same latitude and longitude as places marked on the plate before one. In fact the maps, though of large size, are sometimes so full as to be indistinct, England and Germany in particular. In the former case, either the omission of the railways or the marking of main lines only (instead of an indiscriminate and inaccurate selection) would make the picture more intelligible. It strikes us as strange that Amlwch and Mablethorpe should be marked, while the far more important seaside resorts Llandudno and Skegness are omitted; that in the map of the world the Vancouver-Yokohama steamship route should be ignored; that the variants Lofoden and Loffoden should appear; that no attempt should be made to distinguish ancient and modern names in Palestine; and that the Corinth Canal, the railways of South Africa, most of the familiar names in Mashonaland, the name of the British South Africa Company, and the Stevenson Road should not be shown in a professedly up-to-date atlas. On the other hand, we are thankful for a clear map of Switzerland, a small inset map of Iceland, and the delimitation of the different spheres of influence in Oceania. The removal of the comparatively few blemishes would easily bring the atlas into harmony with its title.

Gazetteer of Great Britain and Ireland. (Cassell.)

The first part of this new enterprise of the Belle-Sauvage Yard house is before us. It is an excellent beginning of a much needed work, which we have no doubt will be widely popular, as it certainly deserves to be. Every care has been taken to make it a thoroughly comprehensive and accurate topographical dictionary, and great skill has been shown in packing a considerable amount of information into a remarkably small space. A large coloured map and numerous illustrations accompany the text. Readers in want of a gazetteer—and we fancy most folks are—cannot do better than "take in" this monthly sevenpennyworth.

The Geography of North America. (Blackie.)

A brief handbook for students, in thirty-eight pages. It is clearly arranged, not crowded with details, and liberally supplied with simple maps. The synopsis at the end forms a useful map-guide and aid to revision.

HISTORY.

A First History of France. By Louise Creighton. (Longmans.)

A clear, unpretentious, and, so far as we have tested it, sound summary of the history of the inhabitants of Gaul from the rise of Julius Caesar to the fall of his imperial historian Napoleon III. It is a trifle more colourless than, even with its limitations of space, it need have been; and it is, perhaps, too purely a narrative of incidents than even an elementary history need be. For instance, the *locus standi* of the different parties in the religious wars is never precisely given; nor is much use made of opportuni-

ties for pointing out resemblances, contrasts, or points of contact generally with the more familiar English history. The printing is delightful, the binding serviceable, and the numerous maps and cuts altogether admirable. There is a compact index and a chronological summary of contents.

British Commerce and Colonies, from Elizabeth to Victoria.

By H. de B. Gibbins. (Methuen.)

Mr. Gibbins here serves up again—in a shorter form, but with additions—part of the matter which goes to make his "Industrial History of England." Like his previous work, it is useful, but we cannot help thinking that Mr. Gibbins might easily have made it more useful by keeping more to his subject, and more sound by a little deeper study of the non-commercial side of history. Surely, it is quite misleading to speak of our "conquest of India" during the period 1600–1701; and confusing, as well as out of place, to deal at such length with the exploits of Clive. The lists of authorities and of the component parts of the Empire, at the end, call for a word of praise.

The House of Hanover. (Macmillan's "History Readers," Standard VII.)

The book contains sixty readings—military, biographical, descriptive, and political—each with an explanation of difficult words and phrases; a number of well-executed cuts; summaries in small type; and a chronological table. The style is interesting, and the text is as accurate as a Reader (where minute refinements would be tedious) can well be.

MISCELLANEOUS.

Commercial Law. By J. E. C. Munro. (Macmillan's "Commercial Class Books.")

A somewhat scrappy explanation as to who can make contracts, and in what way they should be made and enforced, &c. The book seems rather too technical for the use of schools and colleges.

Messrs. Isaac Pitman & Sons' Publications.

We have before us a third edition of Mr. Turner's useful *Progressive Studies in Phonography*, a *Learner's Shorthand Reader*, and a *Key to Pitman's Shorthand Instructor*. From the same publishers we have a neat little *Pocket Dictionary*, with definitions of the most meagre kind, and a couple of *Arvon English Readers*, for Standards I. and II. The Readers are printed in large type and have plenty of pictures.

London University Guide, 1893–1. (Clive.)

This is the work of the staff of the University Correspondence College, whose *Calendar* it includes. It is indispensable for those preparing (transitively or intransitively) for Burlington House.

"*The Bookman*" *Directory.* (Hodder & Stoughton.)

Lists of the addresses of some booksellers, publishers, and authors.

The Union Jack.—(1) *Wall Diagram.* (W. & A. K. Johnston.) (2) *Series of Cards for Blackboard Use.* Designed and arranged by Mrs. Hughes. (G. Philip & Son.)

The first of the diagrams before us gives the three flags separately and together as forming the Union Jack. There is also a short historical account of the formation of the flag. Mrs. Hughes has devised a series of diagrams on cardboard, which are intended to show practically how the present flag has been formed. Two have to be cut out and placed on the St. Andrews Cross flag. An interesting account is also given of the formation of the flag; but we rather accept the well-known explanation of the words "Union Jack" than that given by Mrs. Hughes. We trust these diagrams will be used as illustrations to history lessons.

Woodwork. A graduated series of Thirty Models, arranged to cover the requirements of the Science and Art Department. By Wm. Nelson, Organizer to the Manchester School Board. (G. Philip & Son.)

Of all English systems of woodwork, this is the one that has been most influenced by Sloyd, Mr. Nelson having been on more than one occasion a student at Näs. He has boldly adopted the rounded work of Sloyd, some of his models, such as the scoop, the pen-tray, and the book-holder, being taken from the Näs series. In aiming at a somewhat shorter course than an ordinary Sloyd course, he has been obliged to sacrifice some part of the fine graduation of difficulties which is characteristic of Sloyd. Seven out of the thirty models consist of exercises not embodied in complete objects. The drawings are bold and clear, and the book generally is well got up.

Mr. HENRY FROWDE, of the Clarendon Press Warehouse, has published a beautiful little "Thumb Prayer Book," which is remarkable for the smallness of its size and weight. It goes easily into the waistcoat pocket and weighs less than three-quarters of an ounce. It is printed on Oxford India paper.

MESSRS. GEORGE PHILIP & SON have produced a comprehensive set of a hundred and fifty slides as aids to teaching elementary botany. They are especially intended for the elementary stage of the Science and Art Department's syllabus, and schools under the County Councils. Each part of the plant is taken in regular order, and many important points are brought to the student's notice.

UNIVERSITIES.

(From Our Correspondents.)

OXFORD.

The general attitude of mind up here may at present be described as expectant; we all want to know who is to be Master of Balliol, Professor of Greek, Professor of Latin, and some of us are even disturbed in mind as to the succession to the Professorship of Astronomy. With the exception of the Latin Professorship, the field at present seems rather better than any of the candidates, and were it the practice of grave and reverend dons to indulge in the pernicious habit of speculating on future events, a study of their betting books would just now be most instructive. For the Mastership of Balliol everyone has his own candidate; in the case of the Regius Professorship of Greek no one quite knows what Mr. Gladstone may do; there are two, if not three, candidates with strong claims in residence, the Provost of Oriel and Mr. Bywater, and possibly Mr. Sidgwick; there are rumours of a possibility of Mr. Rutherford, of Westminster; others hint darkly that Glasgow may restore us Mr. Murray; possibly Mr. Gladstone is at present engaged in considering the rival merits of Dr. Monro's "Homeric Grammar," Mr. Bywaters' "Aristotle," Mr. Sidgwick's "Introduction to Greek Prose" (with a vocabulary), Mr. Rutherford's "New Phryniehus," and Mr. Murray's celebrated novel. If this be the case, it is no wonder that the fate of the Home Rule Bill hangs in the balance.

Further, we have been racked and canvassed and wearied to death by the caucuses who wish to "run" the election to the Hebdomadal Council on the 25th. There are nine places to be filled—three Heads of Houses, three Professors, and three Members of Convocation. In the first category there will be no contest, but in the other two there are four candidates. Additional excitement is lent to the voting by the fact that each elector can only give two votes in each class; hence the anxiety of the caucuses that each person should vote on the "right ticket." Many members of Congregation are weary of the manoeuvres of the caucuses, and would gladly vote for an eligible "Independent." But the undergraduate world cares for none of these things.

However, the undergraduates, or at any rate those who have just passed their Final Schools, are complaining that this year there are few, if any, examinations to Prize Fellowships: it is true that Fellows have been elected, but not after examination. University have taken the Rev. A. J. Carlyle, formerly of Oriel, as a Chaplain Fellow; while Lincoln have elected Mr. R. Carter, one of their classical tutors, to an Official, and Mr. Garstay, who is said to be a marine-biological specialist, to a Research Fellowship; but these are all senior men, and, as headmasters now demand, as a rule, that budding schoolmasters should be "blues" first and first-class men afterwards, Oxford is filled this term with a large number of unemployed.

Meantime, Manchester New College has opened its doors to independent theology, with much pomp—with speeches and lunches and general self-satisfaction, and all the paraphernalia common to inauguration ceremonies: the students of anatomy have got a new museum, while the city municipal buildings are at a standstill, thanks to the very complete bankruptcy of the contractor. Such events, combined with the usual amount of rowing and football, and the blood-curdling contests of the Dons at hockey, to say nothing of the recent articles in the press, serve to keep Oxford going in the rather depressing weather which has hitherto been associated with the October term.

CAMBRIDGE.

The past long vacation will long be remembered by residents as the Extensionists' year. Never has the solemn old place received such a visitation; a few brilliant isolated lectures have been delivered at our country friends, and a few dull courses to them, and perhaps no one is a penny the worse, possibly a few some guineas the richer.

The freshmen's entry is again falling, the Vice-Chancellor only having 885 this year to matriculate, and the distribution of the entrants has given rise to much comment. Trinity, of course, can always maintain its numbers and the comparatively high standard of its extramural examination, but that St. John's can only write down 61 freshmen, as against 60 at Trinity Hall and 63 at Pembroke, must be due to some cause other than the severity of an entrance test. The fact has now to be grasped by all Cambridge people that the only person who can be squeezed for further fees is the toothsome undergraduate; the college revenues decrease, the University is more and more exacting; Fellows and tutors marry and get to themselves extended families; promotion is stopped—and fees have to pay for it all. As a result of all this we see a wholesale absorption of an unlearned and ignorant set of freshmen by the second-class colleges.

Most residents were surprised that the outgoing Vice-Chancellor delivered his valedictory address on September 30th, the day before the commencement of the October term, but this was perfectly in accordance with University law. Dr. Peile is to be congratulated on his successful tenure of office; he has been uniformly courteous, and yet has been a firm and dignified upholder of the rights of his office. His successor, Mr. Austen-Leigh, will certainly be no whit inferior to his predecessor in courtesy, and it is hoped he may be as successful in ruling the University as he has been in his own college and in other fields.

Dr. Peile, in his retiring address, with commendable tact avoided any

controversial matter, but as he alluded to the Sedgwick Memorial Museum it might be as well to sum up the facts on the subject. The public were invited to subscribe for building the present Geological Museum, and a sum of about £23,000 was raised in 1835 for that purpose, as well as for the extension of the Library, &c. This money cannot be diverted to other purposes. About £23,000 has been raised in honour of Professor Sedgwick. Those concerned were some years ago prepared to agree to the erection of a portion of the new museum, provided it were carried out at once. They are in no way pledged now to accept anything less than the expenditure of all the money collected for the purpose at the several times mentioned above. There is some hope that the matter will soon be considered again, as the several boards, syndicates, and committees concerned have expressed a general approval of the plans for the new museum drawn up by Mr. Jackson, except the Financial Board, which was not prepared to recommend the University to sanction any expenditure on buildings which would entail additional expense for maintenance until some further source of income was provided. This is now forthcoming from the additional capitation fees to be imposed, which will add a sufficient sum to the University income quite as soon as the buildings can possibly be completed.

Building has been rather at a standstill during the long vacation. Ayerst Hostel has found a new resting-place in a grim building near Castle Hill, and the Queens' Chapel has been gorgeously completed—that is practically all.

The publication of the Little-go lists for the October examination has been attended by many a bitter wail from candidates who have been unable to get round the examiners in Part II. This year an exceptionally stiff Paley paper has been the stumbling block for many. The examiners for Part I. have at last risen to their opportunity, and, by setting hard but full and thoroughly testing papers, removed this examination from the position of contempt to which it had fallen.

One problem will soon have to be faced here, the connexion between examinerships and teaching. It seems quite time that a rule should be laid down by authority that no one should be appointed to examine who can thereby directly or indirectly attract men as pupils for his pecuniary profit. The rule if made at once would not be made too soon.

The appointment of the Bishop of Ripon as Lecturer in Pastoral Theology has given much satisfaction in certain quarters, and it is hoped that the Mastership of Bishop Selwyn, at the college which bears his name, will tend to consolidate and strengthen the work and teaching of one of the most successful educational ventures modern Cambridge has seen.

As compared with the entry in the Michaelmas term 1892, there is a decrease this year of 25. The following tabulated statement shows the entries at the various colleges, hostels, and non-collegiate students in 1893 and 1892:—

COLLEGE.	1893.	1892.	COLLEGE.	1893.	1892.
King's.....	36	30	Jesus	38	41
Trinity	182	181	Christ's	37	46
St. John's	61	81	Magdalene	11	14
Peterhouse	16	21	Emmanuel	50	48
Clare	57	55	Sidney Sussex	20	16
Pembroke	63	59	Downing	14	10
Gonville and Caius..	56	52	Selwyn Hostel	33	37
Trinity Hall	60	58	Ayerst's Hostel ...	4	4
Corpus Christi	34	40	Non-collegiate	48	46
Queens'	22	25			
St. Catharine's	13	16			
				855	880

LONDON.

The June Matriculation Examination is said to have been held at nine Colonial centres, but candidates have passed at five centres only, as follows:—Five in Mauritius, one in Ceylon, two in Newfoundland, three in Antigua, and one in Natal.

Sir William Scovell Savory, Bart., M.B., F.R.S., has been appointed by the Crown to fill the vacancy in the Senate caused by the selection of Lord Herschell for the Chancellorship. Sir William is a London graduate (M.B. 1848, with honours all along the line, including a scholarship in physiology, and three medals). He has twice acted as examiner to the University, for a period of five years in each case, first in physiology (1863–8), and afterwards in surgery (1874–9), and he has recently held the Presidency of the Royal College of Surgeons.

Another vacancy in the Senate, also to be filled by a Crown appointment, has been caused by the death of Sir William Smith—one of the "noble army of Smiths," as he would sometimes call them—who succeeded in creating for himself a distinct and somewhat imposing personality. Although in his youth Sir William studied at University College, he did not graduate in London. He served as examiner in classics to the University for two periods, the first of ten years (1853–63)—for there was no limit of time to examinerships in the early days of the University—and again, after a year's interval, for five years (1864–9). Immediately after the close of this second period, he was, like many another emeritus examiner, appointed to a chair in the Senate.

MATHEMATICS.

12020. (Professor SYLVESTER.)—Find the general values of u and v , as rational integral functions of x , which satisfy the equations

$$u^2 + l(du/dx)^2 = v^2 \dots (1), \quad u^2 + l(du/dx)^2 = v^2 + \lambda(dv/dx)^2 \dots (2).$$

Solution by H. J. WOODALL, A.R.C.S.

Write the equations

$$u^2 + l(du/dx)^2 = v^2 \dots (1), \quad u^2 + m(du/dx)^2 = v^2 + \lambda(dv/dx)^2 \dots (2).$$

Subtract; therefore $\lambda(dv/dx)^2 = (m-l)(du/dx)^2$;

therefore $v = \{(m-l)/\lambda\}^{1/2} u + C$;

therefore $u^2 + l(du/dx)^2 = [\{(m-l)/\lambda\}^{1/2} u + C]^2 = (1+A)u^2 + 2Bu + C$;

therefore $l(du/dx)^2 = Au^2 + 2Bu + C$; $\therefore x = l^{1/2} \int \frac{du}{(Au^2 + 2Bu + C)^{1/2}}$.

This gives x in terms of u ; we can then find u in terms of x , and thence v in terms of x without difficulty.

11997. (Professor GENESE, M.A.)—If PSp be a focal chord of a conic, and PM , pm perpendiculars on the corresponding directrix, prove that parallels through P , p to Sm , SM respectively meet at the middle point of Mm .

Solution by V. J. BOUTON, B.Sc.; H. W. CURJEL, B.A.; and others.

Let the lines through P , p parallel respectively to Sm , SM , meet in R . Produce PR to meet pm produced in

q ; then $\frac{SP}{PM} = \frac{Sp}{pm} = \frac{SP+Sp}{PM+pm}$;

but $\frac{SP}{mq} = \frac{Sp}{pm}$;

therefore $mq = PM$.

Similarly, if pR meets PM in Q ,

$MQ = pm$.

[The rest in Volume.]

12087 & 12107. 12087. (Rev. T. P. KIRKMAN, M.A., F.R.S.)—If kR_x denote the number of possible permutations of the filled k -partitions of x , i.e., of the partitions kQ_x , in which zero and repeated parts are permitted, and if C_k^{x+k-1} be the k th coefficient in $(1+t)^{x+k-1}$, then $kR_x = C_k^{x+k-1}$.

12107. (RUSTICUS.)—Write down the terms of A whose sum is the k th term of B , in

$$A = (a+b)^a (a+b)^b (a+b)^c \dots = (a+b)^{a+b+c+\dots} = (a+b)^e = B.$$

Solution by Rev. T. P. KIRKMAN, F.R.S.; and D. BIDDLE.

1. Let kQ_x be the number of the filled k -partitions of x , i.e., of the partitions in which repeated parts and zero parts are allowed, and let these kQ_x partitions be written in dictionary order, so that no part shall precede a lesser.

Let kQ'_x be the number of all the permutations of the kQ_x partitions that can be added to kQ_x . Then it is plain that if

$$kR_x = kQ_x + kQ'_x \dots (a),$$

kR_x is the algebraic sum of the permutations of the kQ_x partitions, for all values of x and of k . Let $k=1$, then $kQ_x = {}_1Q_x = 1$, for there is only one way of writing the number x in one part only, and ${}_1Q'_x = 0$, for to that one part can be added no permutation of it. Thus, whatever be x , (a) becomes ${}_1R_x = {}_1Q_x = 1 \dots (b)$.

Theorem Ω .—If kR_x be the sum of the permutations of the k -partitions of x in which repeated and zero parts are allowed, kR_x is the k th coefficient in $(1+t)^{x+k-1}$, where $k > x$, or $= x$, or $< x$. [The rest in Vol.]

11992. (Professor NEUBERG.)—On donne une courbe plane Δ . En un point quelconque M de Δ , on mène la tangente MT . O étant un point fixe, on construit l'angle MOT égal à un angle donné α . Trouver la tangente en T à la courbe décrite par ce point lorsque M parcourt Δ .

Solution by H. J. WOODALL, A.R.C.S.; Prof. CHAKRIVARTI; and others.

Transfer the origin of polar coordinates to point O (any initial line).

Then $OM = r$, $OMT = \phi$,

$$OT = r \sin \phi \operatorname{cosec}(\phi + \alpha),$$

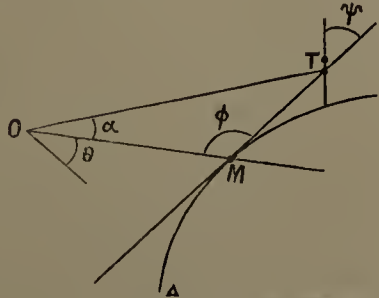
$$-\tan \phi = r d\theta/dr,$$

$$\sin \phi = r d\theta/dr \{1 + (r d\theta/dr)^2\}^{1/2},$$

$$R = OT = r \sin \phi \operatorname{cosec}(\phi + \alpha)$$

$$= r^2 / (r \cos \alpha + dr/d\theta \sin \alpha),$$

$$-\tan \psi = R \frac{d(\theta + \alpha)}{dR}.$$



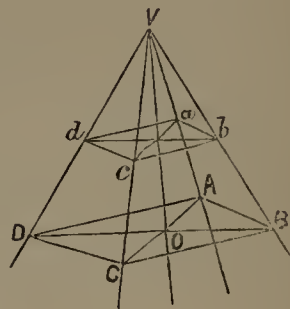
[The rest in Volume.]

12012. (W. J. GREENSTREET, M.A.)—ABCD is a quadrilateral, O the intersection of its diagonals, V the vertex of the pyramid which has ABCD as its base. Every section of the pyramid perpendicular to VO is found to be a parallelogram. Find the locus of V .

Solution by Prof. DROZ-FARNY;

H. W. CURJEL, B.A.; and others.

Let $abcd$ be a section of the pyramid; then the diagonals of $abcd$ cut in VO , but they bisect one another; therefore VO bisects the angles AVC , BVD . Hence locus of V is the circle which is the common section of the spheres on the lines joining O to its harmonic conjugates with respect to A , C and B , D as diameters.



12003. (Professor COUPEAU.)—Étant donné un point P et un angle XOY , mener, dans une direction donnée, une sécante coupant OX , OY en deux points A , B , tels que le rapport $PA : PB$ ait une valeur donnée $m : n$.

Solution by H. W. PYDDOKE; Prof. GREENWOOD; and others.

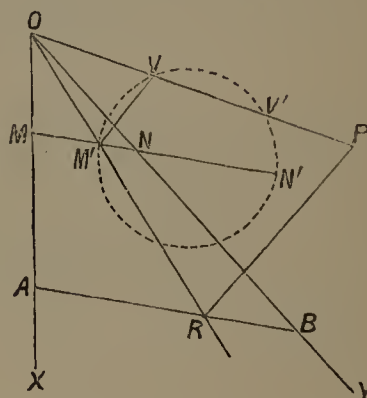
Draw any line in the given direction, and cutting OX , OY at M , N ; and divide MN externally and internally at M' , N' in the ratio m/n . On $M'N'$ as diameter describe a circle cutting OP at V , V' . Draw PR parallel to VM' , and meeting OM' at R . Draw ARB parallel to MN , and to the given direction.

Then the triangles APB , MVN can easily be shown to be similar; therefore $AP : PB = MV : VN$

$$= MM' : M'N = m : n,$$

by a well-known property of the harmonically divided line.

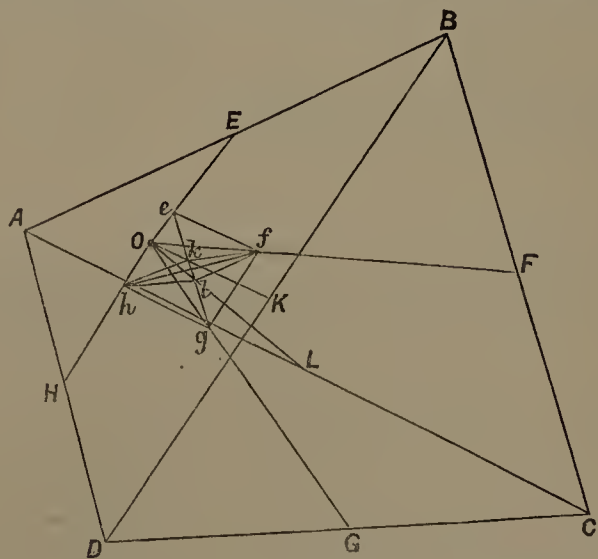
If the circle on $M'N'$ does not cut OP there is no solution. If it does there are two solutions, according as we start from the points V or V' .



8627. (SARAH MARKS.)—ABCD is a quadrilateral, E , F , G , H the middle points of its sides taken in order, K , L the middle points of the diagonals, O any point, OE , OF , OG , OH , OK , OL are divided in the same ratio in e , f , g , h , k , l ; prove that eg , fh , kl bisect each other.

Solution by H. J. WOODALL, A.R.C.S.,

Since $Oe : Of : Og : Oh = OE : OF : OG : OH$, and $EFGH$ is a parallelogram, therefore so is $efgh$; therefore eg , fh bisect each other.



Similarly $elgk$ is a parallelogram; therefore eg , lk , fh bisect each other.

11627. (Professor DURÁN LORIGA.)—Sean a una de las alturas iguales de un triángulo isósceles, l , l_1 los dos segmentos aditivos ó susstractivos en que la perpendicular considerada divide al lado correspondiente (siendo l el contado á partir de la base); demostrar que se verifica la relación $l^2 \pm 2ll_1 = a^2$.

Solution by J. BURKE, M.A.; H. W. CURJEL, B.A.; and others.

Sean AC , BC los lados iguales de el triángulo isósceles ABC ,

$$AM = a, \quad BM = l, \quad MC = l_1,$$

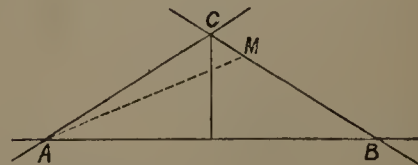
$$\text{Entonces } l^2 = AB^2 - a^2,$$

$$l_1^2 = BC^2 - a^2;$$

$$\therefore l^2 l_1^2 = (AB^2 - a^2)(BC^2 - a^2),$$

pero

$$a^2 \cdot BC^2 = AB^2 (BC^2 - \frac{1}{4}AB^2) = 4\Delta^2.$$



Siendo Δ la área de ABC; $\therefore \pm H_1 = a^2 - \frac{1}{2}AB^2$;
 $\therefore \pm 2H_1 = AB^2 - a^2 + 2(a^2 - \frac{1}{2}AB^2) = a^2$.

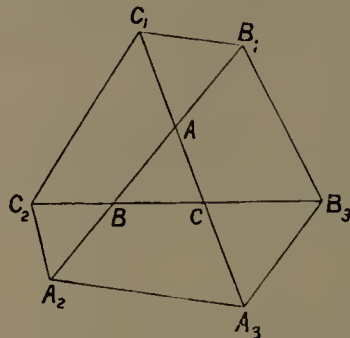
12027. (Professor NEUBERG.)—On porte sur les côtés BA, CA d'un triangle ABC les longueurs AB_1, AC_1 égales à BC; sur les côtés CB, AB, les longueurs BC_2, BA_2 égales à CA; sur les côtés AC, BC les longueurs CA_3, CB_3 égales à AB. Trouver la surface de l'hexagone $A_2A_3B_3B_1C_1C_2$.

Solution by J. M. STOOBS, B.A.; H. J. WOODALL, A.R.C.S.; and others.

$$\Delta AA_2A_3 = \frac{1}{2}(b+c)^2 \sin A,$$

$$\Delta AB_1C_1 = \frac{1}{2}a^2 \sin A.$$

$$\begin{aligned} \text{Hexagon} &= \Delta A_2A_3 + \Delta BB_1B_3 + \Delta CC_1C_2 \\ &\quad + \Delta AB_1C_1 + \Delta BA_2C_2 \\ &\quad + \Delta CA_3B_3 - 2\Delta ABC \\ &= \frac{1}{2} \{ (b+c)^2 \sin A + (c+a)^2 \sin B \\ &\quad + (a+b)^2 \sin C \\ &\quad + a^2 \sin A + b^2 \sin B + c^2 \sin C \} - 2\Delta ABC \\ &= 2R^2 \Sigma \sin^2 A \Sigma \sin A \\ &\quad + 4 \sin A \sin B \sin C. \end{aligned}$$



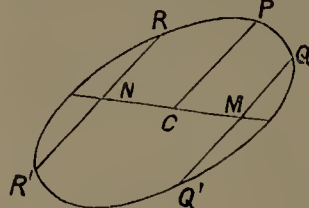
12050. (R. KNOWLES, B.A.)—CP is a radius of a conic; QQ', RR' are chords parallel to CP; prove that the line joining the poles of QQ' and RR' is parallel to the tangent at P.

Solution by J. F. HUDSON, M.A.; Prof. KOEHLER; and others.

Let M, N be the mid-points of QQ', RR'. Then the poles of QQ', RR' lie on CM, CN produced.

Also, M, N, C are collinear, and MN is parallel to the tangent at P.

Hence, the join of poles of RR', QQ' is parallel to the tangent at P.



484. (J. H. SWALE.)—Let C be the centre, and B any point in the radius AC of the semicircle ARH; draw any line AR to the periphery, and join BR; then $AR^2 : BR^2 - BA^2 = AC : CB$; or $AR^2 : AB^2 - BR^2 = AC : CB$; according as B lies between or beyond A and C.

Solution by W. J. GREENSTREET, M.A.; M. BRIERLEY; and others.

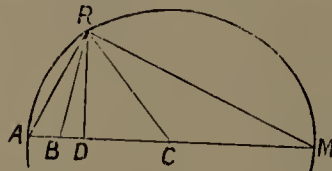
Let RD be the perpendicular on the diameter AM; then we have

$$\begin{aligned} BR^2 - BA^2 &= RD^2 + DB^2 - BA^2 \\ &= AD \cdot DM + AD(DB - BA) \\ &= 2BC \cdot AD, \end{aligned}$$

$$\text{and } AR^2 = AM \cdot AD = 2AC \cdot AD;$$

$$\text{therefore } AR^2 / (BR^2 - BA^2) = AC / BC.$$

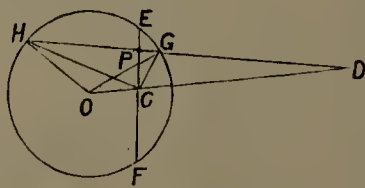
Similarly, when B lies beyond A and C.



873. (MORTIMER COLLINS.)—A point being taken within or without a circle, and in every chord passing through it a second point being taken, such that the chord produced is harmonically divided by these two points and the circumference, determine the locus of the latter points.

Solution by W. J. GREENSTREET, M.A.

If DGH be any chord through the fixed point D, then, if EF is the polar of D, cutting HD in P, we know that P and D are harmonic conjugates to H and G. Hence the required locus is the polar of the given point with respect to the circle.



11911. (R. W. D. CHRISTIE.)—ABCD is a parallelogram. An n th part CE is cut off side CD. A diagonal AC cuts BE in F. Prove that the respective areas are respectively proportional to

$$\text{trapezium ADEFA} = n^2 + n - 1, \text{ triangles AFB, BFC, CFE} = n^2, n, 1.$$

Solution by T. SAVAGE; R. CHARTRES; and others.

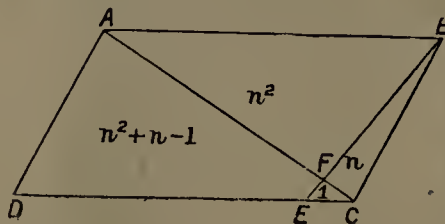
Since the triangles FAB, FEC are similar, $AB = n \cdot EC$, and

$$BF = n \cdot FE;$$

$$\therefore \text{FEC} : \text{FBC} : \text{FAB}$$

$$: \text{ADEFA}$$

$$= 1 : n : n^2 : n^2 + n - 1.$$



12036. (Professor RINDI.)—Soient AA', BB' deux médianes du triangle ABC; démontrer que les cercles décrits sur AA' et BB' comme diamètres ont pour axe radical la hauteur de ABC qui correspond au sommet C.

Solution by J. M. STOOBS, B.A.; J. F. HUDSON; and others.

Let the perpendiculars AP, BQ, CR of the ΔABC meet in O.

The circles on AA', BB' as diameters will pass through P, Q respectively.

Since AQP is cyclic, therefore

$$CQ \cdot CA = CP \cdot CB;$$

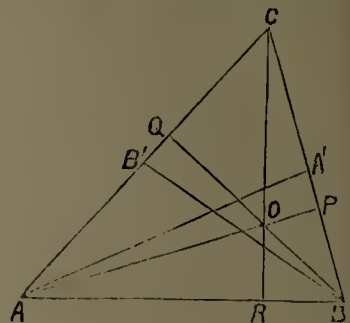
therefore $CQ \cdot CB' = CP \cdot CA'$;

therefore C lies on the radical axis.

Also $AO \cdot OP = BO \cdot OQ$;

therefore O lies on the radical axis;

therefore COR is the radical axis.



12001. (Professor BERNES.)—Si, entre les côtés AB, AC d'un triangle ABC, on trace DE parallèle à BC, et FG antiparallèle relativement à l'angle A, l'axe radical des circonférences BEG, CDF est indépendant de la position de DE; il coïncide avec la droite qui joint A à la rencontre des droites BG, CF.

Solution by Prof. A. DROZ-FARNY; H. W. CURJEL, B.A.; and others.

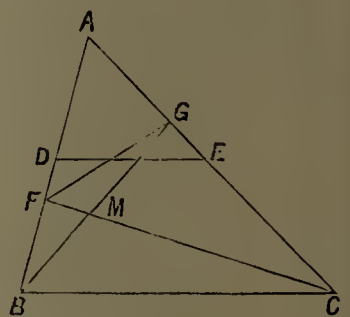
Soit M le point d'intersection de FC et BG; le quadrilatère BEGC étant inscriptible, on a $MF \cdot MC = MB \cdot MG$; M est un point d'égale puissance par rapport aux deux circonférences considérées; il appartient donc à leur axe radical. On a de même

$$AF \cdot AB = AG \cdot AC.$$

Or, comme $AB : AD = AC : AE$,

on a aussi $AF \cdot AD = AG \cdot AE$,

donc A appartient aussi à l'axe radical, qui est ainsi la droite AM.



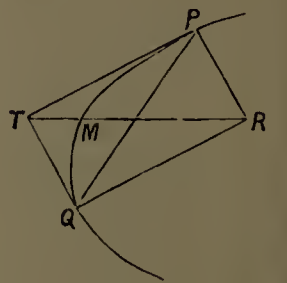
11977. (R. TUCKER, M.A.)—Find (1) the locus of a point R. so that the normals therefrom to a parabola are mutually at right angles; and hence (2) derive a property of orthogonal tangents to a semi-cubical parabola.

Solution by H. W. CURJEL, B.A.; Prof. CHAKRIVARTI; and others.

1. Let the normals at P, Q to the parabola $y^2 = 4a(x-a)$ cut at right angles in R; then the tangents at P, Q cut at right angles at T (say); hence T is on the directrix; also TR, PQ bisect one another: therefore TR is a diameter and $TR = 4TM$, where TR cuts the parabola in M; therefore locus of R is

$$y^2 = 4a(\frac{1}{4}x - a), \text{ or } y^2 = ax - 4a^2.$$

[The rest in Volume.]



QUESTIONS FOR SOLUTION.

12117. (Professor SYLVESTER, F.R.S.)—If F represents $x^3 - 3xy^2 + y^3$, where x, y are any positive or negative integers, prove that (1) every prime number divisor of F is 3, or else of the form $18i \pm 1$; (2) all the absolute integer values of F may be obtained by supposing x, y both positive, and x less than y ; (3) all the integer primes of the form $18i \pm 1$ up to 1009 inclusive (leaving out as doubtful the six primes 557, 593, 647, 773, 881, 991) are representable under the form F or $\frac{1}{3}F$.

[Prof. SYLVESTER finds the number of $18i - 1$ and $18i + 1$ primes not exceeding 1009 to be 42 and 39 respectively, all of the latter except one, viz. 991, being of the form F or $\frac{1}{3}F$; or, as it may be put more strikingly, the 38 primes of the form $18i + 1$, stopping at 991, are of the form F or $\frac{1}{3}F$; and he inquires whether the probability formula for the Sun's continuing to rise would be applicable to calculate the probability that 991 is not an exception to the law.]

12118. (Professor MORLEY.)—Let A'B'C' be the points of contact of the in-circle with the sides of a triangle T. Then the point of contact of the in-circle and nine-points-circle of T is the inversive of the centroid of A'B'C' with regard to its Brocard circle. Also this point is the foot of the perpendicular from the centroid of A'B'C' on the tangents to its maximum circum-ellipse at the Steiner point.

12119. (Professor NEUBERG.)—Sur les côtés BC, CA, AB d'un triangle ABC on construit extérieurement les triangles BCA', CAB', ABC' semblables à un triangle donné $\alpha\beta\gamma$. Soient V, v, V' les angles de Brocard des triangles ABC, $\alpha\beta\gamma$ et du triangle ayant pour côtés AA', BB', CC'. Démontrer la relation

$$(\cot V + \cot v)(\cot v - \cot V') = \cot^2 v - 3.$$

12120. (Professor GENESE, M.A.)—A bar LM glides along a straight groove ALMB, and carries pulleys at L, M; two strings fastened to a heavy particle P pass over LM and have their other ends fixed to pegs at A, B. Prove that (1) if the whole be in a vertical plane, P will describe a central conic; also (2) if LM be made to move with uniform velocity, the apparatus illustrates NEWTON'S *Scholium to Prop VIII*.

12121. (Professor ZERR.)—Prove that the radii of the M'Cay circles are respectively $\frac{1}{3}ae/(1-e^2)^{\frac{1}{2}}$, $\frac{1}{3}be/(1-e^2)^{\frac{1}{2}}$, $\frac{1}{3}ce/(1-e^2)^{\frac{1}{2}}$, where e is the eccentricity of the Brocard ellipse.

12122. (Professor DROZ-FARNY.)—On donne une circonférence O et un diamètre fixe AB. D'un point variable P de O comme centre on décrit une circonférence tangente à AB. Soit C le point de contact. On demande (1) l'enveloppe de l'axe radical des circonférences O et P; (2) le lieu de l'intersection de cet axe radical avec le rayon de contact PC; et (3) le lieu des points d'intersection de la tangente en P au cercle O avec le cercle P.

12123. (Prof. FORTEY, M.A.)—If a series of n terms is deranged, find (1) the chance that no term stands next to a term it was next to originally; and (2) if n is infinite, prove that the chance is $e^{-2} = .13533528$.

12124. (Prof. SHIELDS.)—Each of five subscribers to the *Educational Times*, A, B, C, D, and E, owned a different sum of money, and each, in succession, guessed at the number of issues of the *Educational Times* owned by each of the others, on this condition, that the party who fails to guess the correct number of the *Educational Times* each has, shall pay to each of the others as much money as they already have. First, A. makes a guess, and loses, paying to each of the others as much money as they already have; then B. makes a guess, and loses, paying to each of the others as much money as they already have; then C.; then D.; and, last, also E.; all make a guess, and lose in turn, and yet, after paying each of the others as much money as they already had at the end of each guess, they have all the same sum of money, viz., \$352 each. Find the amount of each man's money at the beginning, and how much each party made or lost in the whole transaction.

12125. (Professor RAMASWAMI AIYAR.)—Let ABCD and A'B'C'D' be two conjugate tetrahedra. If anti-parallel sections $\alpha, \beta, \gamma, \delta$ and $\alpha', \beta', \gamma', \delta'$ be taken of these tetrahedra, the eight sections are triangles which are all similar. If a_1, b_1, c_1, d_1 and a'_1, b'_1, c'_1, d'_1 be corresponding points of these similar triangles, and a_2, b_2, c_2, d_2 and a'_2, b'_2, c'_2, d'_2 be their isogonal conjugates in these triangles respectively, show that the lines $Aa_1, Bb_1, Cc_1, Dd_1, A'a'_2, B'b'_2, C'c'_2, D'd'_2$ are generators of one system of a hyperboloid, and that the lines $Aa_2, Bb_2, Cc_2, Dd_2, A'a'_1, B'b'_1, C'c'_1, D'd'_1$ are generators of the opposite system of the same hyperboloid.

12126. (Professor CLAYTON, M.A.)—Prove that (1) the condition that two conics given by their general equations should be confocal is

$$\begin{vmatrix} a-a' & h-h' & g-g' \\ h-h' & b-b' & f-f' \\ g-g' & f-f' & c-c' \end{vmatrix} = 0;$$

and (2) investigate the corresponding equation for quadrics.

12127. (Professor SARKAR.)—A rod is marked in four points at random. A. bets B. £50 even that no segment exceeds $\frac{1}{16}$ of the whole. Prove that A.'s expectation is 3s. 11d. nearly.

12128. (Professor CHAKRIVARTI.)—A., B., C. throw three dice for a prize, the highest throw winning, and equal highest throws continuing the trial. At the first throw A. throws 13: prove that his chance of the prize is .623864 nearly.

12129. (Professor MANDART.)—Quelles sont les courbes dont le cercle de courbure passe par un point fixe?

12130. (Professor CESÁRO.)—Si les axes de deux paraboles circonscrites à un triangle sont parallèles aux axes de l'ellipse de Steiner, ils se coupent au milieu du segment de droite qui joint le point de Steiner au centre de hyperbole de Kiepert.

12131. (Professor BIJAH BHUT.)—The consumption of an imported commodity is found to increase as the square of the decrease of its price below a certain standard price. If the customs duty be levied at a given rate per cent. on the value of the commodity before the duty is paid, show that, provided that rate be not below a certain limit, there are two other rates which will yield the same total revenue. Find these, and thence determine those rates which will yield the greatest and least revenues respectively.

12132. (Professor BHATTACHARYA.)—A little squirrel clings to a thin rough hoop, the plane of which is vertical, and which is rolling along a perfectly rough horizontal plane; the squirrel makes a point of keeping at a constant altitude above the horizontal plane, and selects his place on the hoop so as to travel from a position of instantaneous rest the greatest possible distance in a given time. Prove that, m being the weight of the squirrel and m' that of the hoop, the inclination of the

squirrel's distance from the centre of the hoop to the vertical is equal to $\cos^{-1} [m/(m-2m')]$.

12133. (EDITOR.)—Solve the equations

$$\frac{x^3+y^3}{2x^2} = \frac{20x+(a-y)^2}{5x} = 4x+2$$

and show that, when $a = 28$, then $x = 4.510604$.

12134. (D. BIDDLE.)—In a straight line AB (= unity) is a point P_1 , such that AP_1 is a given value. On AB, as diameter, is described a semicircle, and with AB as radius is also described a quadrant (from A as centre). The two meet at B. P_1Q_1 is drawn at right angles to AB, meeting the semicircle in Q_1 , and AQ_1 , being joined, is produced to meet the quadrant in R_1 . With radius AQ_1 , P_2 is found on AB, P_2Q_2 is drawn at right angles to meet the semicircle in Q_2 , and AQ_2 , being joined, is produced to meet the quadrant in R_2 . Then R_2Q_1 is joined, and Q_2S_1 is drawn parallel to it, meeting AQ_1 in S_1 . With radius AS_1 , P_3 is found in AB, P_3Q_3 is drawn at right angles, AQ_3 is produced to R_3 , R_2Q_2 is joined, and Q_3S_2 is drawn parallel to R_3Q_2 , meeting AQ_2 in S_2 . Repeat the operation indefinitely (observing that, from $n = 3$ onwards, $AP_n = AS_{n-2}$, and that $Q_{n-1}S_{n-2}$ is parallel to $R_{n-1}Q_{n-2}$, S_{n-2} being on AQ_{n-2}), and prove that AQ_∞ is the cube root of AP_1 .

12135. (R. TUCKER, M.A.)—In the triangle ABC,

$$\angle BAD (d) = CBE (e) = ACF (f) = \theta$$

$$= \angle ABD' (d') = BCE' (e') = CAF' (f'),$$

(the figure being drawn as for finding the Brocard point s

BD (d), CE (e), AF (f) are at right angles (1) to AB, BC, CA respectively; (2) to Ad , Be , Cf respectively; and $AD' (d')$, $BE' (e')$, $CF' (f')$ are at right angles (3) to AB, BC, CA respectively; (4) to $BD' (d')$, $CE' (e')$, $AF' (f')$ respectively. Prove that, if $\sin 2\theta = 2 \tan \omega$ is a possible equation, then there are 8 triplets of parallel straight lines, viz., AE, BF, CD; Ae , Bf , Fd ; AE' , BF' , CD' ; Ae' , Bf' , Cd' . [Doubled, because $\sin 2\theta = \sin 2(\frac{1}{2}\pi - \theta)$].

12136. (M. BRIERLEY.)—Draw two tangents to two given circles, so that they may intersect each other at a given angle, and their sum may be equal to a given line.

12137. (H. J. WOODALL, A.R.C.S.)—Find a relation between the following quantities:—height of C.G. of and weight of railway carriages, the gauge and elasticity of the road on which they run, and the period and amount of the "pitching and rolling" experienced on railway trains. Show how the speed of trains affects the result.

12138. (H. W. CURJEL, B.A.)—The cosine circle of the triangle ABC cuts the sides BC, CA, AB in XX' , YY' , ZZ' ; XY' , YZ' , ZX' being diameters; P, P' are the intersections of AX, AX' with the circle AYZ' ; Q, Q', R, R' are similarly determined. Show that P', Q', R' are the isogonal conjugates of R, P, Q with respect to the triangle ABC. Also, if CQ, BR' cut in L, AR, CP' in M, and BP, AQ' in N, show that L, M, N are the feet of the perpendiculars from the circumcentre of ABC on the sides of the triangle formed by joining the middle points of the sides of ABC. [The point Q is the same as the point Q in Question 11593.]

12139. (W. J. GREENSTREET, M.A.) C is a fixed circle, C' another circle the locus of whose centre is a circle C''. Find the envelope of the radical axis of the circles C, C'.

12140. (J. GRIFFITHS, M.A.)—If the sides of the pedal triangle DEF of a point P, with reference to a given triangle ABC, be connected by a homogeneous and integral algebraic relation of the form $\phi(d, e, f) = 0$, prove that the equation of the locus of P will be $\phi(ax, by, cz) = 0$, where x, y, z are the distances of P from the vertices A, B, C of the given triangle whose sides are a, b, c .

[The curve represented by $\phi(ax, by, cz) = 0$ will be of an even degree and self-inverse with respect to the circumcircle ABC. For example, if $\phi(d, e, f) \equiv (u, v, w, u', v', w') (d^2, e^2, f^2)^2$, then the locus of P will be a bicircular quartic, self-inverse with regard to the circumcircle ABC. This includes the case of the pedal triangle DEF having a constant Brocard angle.]

12141. (J. WOOD, B.A.)—Solve $uxy + xyz + yzu + zuv = a$,

$$u^2x + x^2y + y^2z + z^2u = b, \quad u^3 + x^3 + y^3 + z^3 = c, \quad \frac{u^4}{x} + \frac{x^4}{y} + \frac{y^4}{z} + \frac{z^4}{u} = d.$$

12142. (J. J. BARNVILLE.)—Prove that

$$\frac{1}{1 \cdot 2 \cdot 3 \cdot 4} + \frac{1}{5 \cdot 6 \cdot 7 \cdot 8} + \dots = \frac{1}{4} \log 2 - \frac{1}{24} \pi,$$

$$\frac{1}{1^4 \cdot 3^4} + \frac{1}{5^4 \cdot 7^4} + \dots = \frac{1}{1536} (\pi^4 - 6\pi^3 + 30\pi^2 - 60\pi),$$

$$1 + \frac{1}{3^5} + \frac{1}{6^5} + \frac{1}{10^5} + \dots = 4032 - \frac{32}{9} (\pi^4 + 105\pi^2).$$

12143. (Major P. A. MACMAHON, R.A., F.R.S.)—Show that the number of permutations of the quantities in the product

$$x_1^{\xi_1} x_2^{\xi_2} \dots x_n^{\xi_n},$$

which possess the property that no quantity is in a place originally occupied by a like quantity, is the coefficient of

$$x_1^{\xi_1} x_2^{\xi_2} \dots x_n^{\xi_n}$$

in the development of the fraction

$$1/\{1 - \sum x_1 x_2 - 2 \sum x_1 x_2 x_3 - 3 \sum x_1 x_2 x_3 x_4 - \dots - (n-1) x_1 x_2 \dots x_n\}.$$

12144. (C. LEUDES DORF, M.A.)—Prove that

$$\frac{1}{1+x} + \frac{x}{1+x^2} + \frac{x^2}{1+x^3} + \dots \text{ad infin.}$$

$$= \frac{1+x^2}{1-x^2} - X\left(\frac{1+x^4}{1-x^4}\right) + X^3\left(\frac{1+x^6}{1-x^6}\right) - X^{15}\left(\frac{1+x^8}{1-x^8}\right) + \dots \text{ad infin.}$$

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a *separate* paper (otherwise, when used for printing, the Editor has the labour of entirely *re-writing* such articles); (b) to make their Solutions as short as possible; (c) to send all Questions *early in the month*, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to *prepay* the postage in *full*; and (f) to send all communications to

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NOTICE.—Volume LIX. of the "Mathematical Reprint" is nearly ready, and may be had of the Publisher, FRANCIS HODGSON, 89 Farringdon Street, E.C. Price, to Subscribers, 5s.; to Non-Subscribers, 6s. 6d.

LONDON MATHEMATICAL SOCIETY.

The following is the list of names recommended for election as Council of the Society for the Session 1893-4:—A. B. Kempe, M.A., F.R.S., President; Messrs. A. B. Basset, F.R.S., E. B. Elliott, F.R.S., A. G. Greenhill, F.R.S., Vice-Presidents; Dr. J. Larmor, F.R.S., Treasurer; Messrs. M. Jenkins, M.A., and R. Tucker, M.A., Hon. Secs.; other Members: Dr. Forsyth, F.R.S., Dr. Glaisher, F.R.S., Dr. Hill, Dr. Hobson, F.R.S., A. E. H. Love, M.A., Major MacMahon, R.A., F.R.S., J. J. Walker, F.R.S. Lt.-Col. J. R. Campbell and Lt.-Col. A. J. Cunningham, R.E., are selected to fill the vacancies made by the retirement of H. F. Baker, M.A., and J. Hammond, M.A.

The Annual General Meeting, to be held on Thursday, November 9th, will be made special for the consideration of the following resolution, which will be submitted by the Council: "That the London Mathematical Society be incorporated as a limited liability company, under Section 23 of the Companies' Act, 1867, and that the Council be empowered to take the necessary steps to carry this resolution into effect."

The presentation of the De Morgan Gold Medal will be made, when it is hoped that Prof. F. Klein, the medallist, will be present to receive it.

Prof. L. J. Rogers, M.A., proposes to give a mechanical solution of an old problem, viz., that of tethering a donkey to the circumference of a circular field so as to graze over an n th part of it.

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The Educational Times.

Jowett's Successors. ALIKE in the University and the outside world of letters, considerable interest had been excited over the filling up of the two posts vacated by the death of Professor Jowett, and the fact that one of the posts was in the gift of the Crown did not tend to lessen that excitement. Moreover, both for the Professorship and the Mastership there were a large number of "possibles," and, indeed, a fair share of "probables." Supporters of the Provost of Oriel maintained that, though known to the outside world as a Homeric scholar, he had equally great claim to be known as a general Greek scholar; on the other hand, it was said, and possibly with truth, that his known disinclination to deliver lectures would make him unwilling, even if he should be selected, to accept the honour of the Professorship. There were some who hinted that Mr. Rutherford might be asked to return to Christ Church, and to find, in the dignity and ease of the office, duties more congenial to him than the direction of Westminster School; and there were a few who, possibly biassed by political views, suggested that influence might be exerted upon Mr. Gladstone, with the result that Glasgow should restore to Oxford Mr. Murray. Mr. Sidgwick, too, was mentioned as one who had done great things for the teaching of Greek, and whose lectures were always popular. But the general consensus of opinion was that an Oxford man should be chosen, and this would exclude Mr. Sidgwick, despite the fact that many people have forgotten that it was only after Cambridge and Rugby that he became an Oxonian. Yet probably the majority of people inclined to the belief that the choice would fall on Mr. Monro or Mr. Ingram Bywater, and in the selection of the latter the Crown has decidedly done well. The new Professor has great claims; as an undergraduate he obtained a first class in Moderations in 1860, and *Literæ Humaniores* in 1862 (also tempting fate, but with less success, in the Final Mathematical School in the latter year); as a Fellow of Exeter he has always done excellent work, and his claims as a Greek

scholar were recognised by his appointment as University Reader in that subject. Since his election he has proved his ability in many ways; his lectures have always been popular and learned; his edition of the "Ethics" of Aristotle at once commanded success; and to him moreover—though here, of course, his action was unofficial—the Aristotelian Society in Oxford owes a debt which cannot be easily represented. On the Continent his reputation as a scholar stands high, and he has the honour of being a Corresponding Member of the Academy of Sciences at Berlin. When we add that, besides being a Greek scholar, he is also an able philosopher, and has done good work as a Curator of the Bodleian and Delegate of the Clarendon Press, it will be seen that Mr. Gladstone has selected a distinguished man for a distinguished post.

Excitement and feeling also ran high over the choice of Balliol. In the weeks that intervened between the death of Jowett and the election of a Master to succeed him, many names were in men's mouths. It would be idle to enumerate them all now, but towards the end of the time it became a more or less open secret that the choice of the Fellows would lie between one of their own number and Professor Caird of Glasgow. Had Mr. Strachan-Davidson been chosen resident Oxford would almost certainly have applauded the elevation of a Fellow of Balliol in whom ability, social qualities, and a deep love of his college are happily united; perhaps also there existed a feeling that the higher posts should be given to those who have lived their life and done the best part of their life's work in Oxford. On the other hand, if, as it seems likely was the case, the Fellows were actuated by the desire to introduce fresh blood, they acted with great magnanimity and loyalty to the College, and they will, without doubt, be rewarded by the choice—not made without long deliberation—of Professor Caird. He, too, was a Balliol man, a Snell Exhibitioner, and a pupil of the famous T. H. Green. Shortly after taking his degree, he was elected Fellow of Merton, and for some few years did good work as a teacher. With his appointment to the Professorship of Moral Philosophy at Glasgow, he obtained a wider sphere for his work, and soon showed that he was capable of rising to the new position. Within a short time he became the leader of philosophic thought in the University, and the friend and teacher of many generations of young men; nor has his influence been restricted merely to Glasgow, as it quickly made itself felt through the whole of Scotland. That any teacher should do this is a great achievement, but it is greater in the case of a philosophy teacher; for the Scotch are by nature a nation addicted to metaphysics, and slow to acknowledge any man as a prophet in a subject on which they think deeply.

Jowett the philosopher will be succeeded by a philosopher, and one, we may judge, of the type of T. H. Green, whose influence in Oxford is still remembered, and whose "Prolegomena to Ethics," despite the obscurity of its style, is still a text-book for *Literæ Humaniores*; and Jowett the reformer will be succeeded by a reformer, for Mr. Caird, though perhaps at Glasgow he has not seemed to interfere much in the methods and working of the University, is a believer in University reform. This being the case, Scotland's loss will be Oxford's gain. Balliol will have a Master ready and able to carry on the work of the great Master just dead, and

Oxford will add one more to its list of distinguished philosophical teachers.

THE quarrel between the unsectarianists and the denominationalists with regard to rate-aided education throughout the country grows fiercer and louder; the press and the London School Board have been noisy of late in the matter of the delivery of certain lectures on the Duties of the Citizen; and the wail of the Federated Retail Grocer is heard in the Education Department. With these unpleasing sounds ringing in his ears, the outsider might almost be pardoned for thinking educationalists a peculiarly quarrelsome folk, and education a singularly contentious subject. A moment's consideration would dispel this idea, it is true. We do not wrangle over-much or very bitterly about most of the subjects of the scholastic or academic curriculum, and when we do fall out—concerning compulsory Greek, the crammer, or the teaching of English literature, maybe—we generally manage to settle our differences pretty amicably and without calling one another rude names (unless we are specialists or speciality-ists), or accusing our opponents of endeavouring to corrupt youth. But when we come to a certain small group of large subjects, lying partly within and partly without the pedagogic circle, it is very different; on questions of teaching that bears directly upon current politics, contentious social and economic theories, and religion, the educationalists are at once excited and clamorous, and deeply moved and ready to fight; and the general public is kind enough (and right enough) to join in the fray. Certainly it is their business as much as ours; and as such questions have to be decided by considerations of an almost entirely untechnical character, they are in as good a position to judge as are we.

Radix malorum est cupiditas, as Chaucer's Pardoner was so fond of pointing out. The cause of all these "present troubles" is the desire of public money. In this enlightened country, you can of course teach or learn anything you like, without interference from other people, so long as you do not seek to do it at those other people's expense. When you do so, the aspect of the matter is changed at once; "those who pay the piper want to call the tune," and if your notions of music differ from theirs, it need not create surprise if there is a good deal of discord before the performance proceeds harmoniously. There is not necessarily any ground for accusations of bigotry, fanaticism, pedantry, recklessness, "obscurantism," and other harsh-sounding things, against one side or the other in such cases. Each is right from his own point of view, and each is wrong from the other; the more in earnest each is, the more difficult is it to bring them together. Compromise in cases where there is wide divergence on essentials means that the weaker party surrenders on the best terms it can to the stronger. But when (as here) the relative strength of the antagonistic yoke-fellows is not constant, they will ever be struggling with one another. This does not tend to the progress of the vehicle. It would be better, one might think, that each should be given a smaller car of its own to draw, and be allowed to choose its own way. This is exactly what can be done and is done when you and we agree to differ, and are under no obligation to work together; but this is what cannot easily be done

when the "State"—which is also you and we—has to act as a collective noun.

The difficulties in the way of the teacher of such subjects as those we have referred to are not the least part of the matter. It would be monstrous, of course, if our School Boards and bodies assisted by them were allowed to discriminate between different teachers on account of their views on religion, politics, or the constitution of society. Men and women of all creeds and opinions will be found amongst them. This is perfectly right, and it makes no difference as far as more than nine-tenths of the curriculum is concerned; but about the other small yet very important fraction we are not so happy. The teacher's position in the matter is encompassed with snares, and we are not sure that that of the compulsorily taught is quite satisfactory. It is all very fine to say that the teacher is a gentleman and will not take advantage of his position, but it is a little irrelevant. The man who does not put some of his own feeling into his exposition of debateable subjects, may or may not be a gentleman, but he is not likely to be a good teacher. If he were so, and tried with the utmost conscientiousness to confine himself to what are admitted by all to be ascertained facts—which the advocates of the "gentleman" hypothesis would apparently have to do—he would find great difficulty in getting enough together for a weekly colourless disquisition. The Federated Grocer is a comic figure in education, but he is a citizen and has his rights like another. He objects, rightly or wrongly, to a certain text-book which he thinks likely to prejudice customers against him and his wares. There certainly seems little in Mr. Arnold-Foster's little volume to call forth the Federated Grocer's indignation; but then he is better able to judge, for our finer feelings are not so deeply moved by the thought of the "stores" as are his. Now we make bold to say that the average teacher has made no very deep study of economics, and will get his knowledge of co-operation mainly from the text-book he is "teaching" his class from, colouring it naturally with his own prejudices and predilections. Is this a knowledge more valuable than that a lad will pick up within a year of leaving school from the daily paper or common talk? Is it as mental discipline comparable with learning Euclid or geography or a language? In short—leaving aside the ratepayer's point of view entirely—is not the teacher teaching what he is unfit to teach profitably? and is not the pupil either merely wasting his time or else laying up a store of prejudices, which will possibly never be eradicated, along with here and there a fact of doubtful value?

The same trouble confronts us wherever we turn among the subjects which are beginning to form part of the regular educational course. Even "Thrift" and "Temperance" are not such simple things to give honest and useful lessons upon as those who have not tried it might think; but what shall we say of "Patriotism"? In the old days we thought we got along well enough by supposing it to be induced by the study of history, itself formerly the thorniest of subjects. But when we have to treat it separately, or else in connexion with history brought down to 1893, one cannot help seeing that one honest gentleman's teaching may well be diametrically opposed to another's. An earnest disciple of Mr. Labouchere, for instance, and an ardent student of Mr.

Kipling, would tell entirely different tales, and deduce entirely different morals. This is as it should be, doubtless, but it would be a pity to addle Board-school children's brains or take up part of their brief school hours with either the one or the other.

It is considerations similar to this (with a further thought of the rates) which led to bitter words on both sides anent certain lectures to teachers under the London School Board. The syllabus shows that the lecturer is prepared to discuss such questions as these:—

What should be the organization of Parish Councils in Country Districts?

If the London County Council received full municipal rights, what powers would be added to those which it at present possesses?

Choice of candidates. The necessity of the caucus.

To the second question, the name of a book of reference is appended which is a party programme; the first and the second questions are now being settled—for the time being—by Parliament and a Royal Commission respectively; the third heading deals purely with practical electioneering. We do not suppose for a moment that the lecturer will endeavour to conceal his own views on the subject, and we confess we do not see how he could do so and discuss them with any profit. Nor do we deny that these matters—especially the last—form part of the Duties (and annoyances) of the Citizen. But we certainly do not think that it is well that teachers should earn State grants by repeating to their pupils as much as they can remember of the lectures of this gentleman, or of gentlemen “on the other side.” A part of the educator's business is to impart certain knowledge to his pupils; another, and even more important one, is to teach them to think; the imparting of a smattering of current politics, and what he takes to be his own political convictions, would be a very poor substitute for these. Yet this is a danger that he may find it hard to guard against.

Concerning the solution of the religious difficulty we do not consider it within our province to offer any remarks. As for the other subjects, we have paraded the difficulties in connexion with them, because it is well to remember that their introduction was, to a certain extent, experimental, and that they are on their trial as fitting objects for State succour. It is imperative upon those who think more highly of them in that character than we are able to do, to prove that we have not gone too fast or too far, by showing the world that they can be treated without partizanship and prejudice in the schoolroom and the lecture-hall and at the same time justify their place by the side of instruments of mental discipline upon whose value we are all agreed.

Perhaps we may add one word here in connexion with the discussion on Extension and Endowment which is now raging. The Extension Societies, as at present constituted, have, of course, a perfect right to arrange for such lectures as those referred to above; with a Government grant there would be much opposition to their so doing. It is certain that, even if they succeeded in getting such a grant, it would impose some kind of governmental control upon them, and fetter them in the way in which they desire to develop. Hence he is by no means necessarily their foe who would like to see them go on unhelped and unhindered by State aid. Is it worth their while to barter their liberty for a few hundreds a year?

In the Land of Cockaigne.

THERE seems to be a considerable number of estimable persons who are suffering from the painful consciousness that there is something radically wrong with our educational system. To make up for this saddening conviction, they all have schemes or methods or reforms which are destined to set things right, and they have not so lost their faith in human nature as to believe it will be long before their specifics are universally adopted. What stands in the way of their immediate and complete acceptance is possibly the fact that the remedies are so many, so widely different, and often so antagonistic the one to the other, that the mere schoolmaster has a little difficulty in choosing between them. At present he has to content himself with the old ways, and console himself with the reflection that conscientiousness, energy, and ability to teach are infinitely more important to him and his pupils, under whatever system, than the system itself. “One grammar's about as good as another, if you haven't got a good man behind it,” we once heard an old-fashioned teacher remark; “and if you have, it doesn't much matter what book you use.” There is much truth in this, and it is capable of wider application than was intended by the speaker. At the same time there is no reason why the various and plentiful pronouncements on current educational topics should not generally interest, sometimes instruct, and often pleasantly amuse the experienced teacher. We venture to think that an “educational romance” which has just been published by Messrs. Chapman & Hall will do at least one of these things. “The New Academe,” as Mr. Edward Hartington calls his book, is a regular novel, inasmuch as it contains a heroine, several heroes, a rudimentary tale, and many passages of what an earlier writer on education would call a “vain and amatorious” nature. It is, however, a novel “with a purpose”; and it is its teaching, and not any merit it may have as a work of art—which, to tell the truth, has escaped us—that attracts us.

Mrs. Greatheart—our author's originality does not prevent him borrowing a name from a somewhat more famous allegorist—is the heroine of the novel and the mother of a beautiful little boy called Florian. She is the widow of a rude eccentric who has left her with the child aforesaid and two daughters, a very small income, and the copyright of an insurance annual. The late Mr. Greatheart was not an admirable person (though the author thinks so), and the reader is heartily glad when his decent interment allows the story and the educational theories to get on. When Florian was ten he was sent to one of the London public schools, presided over by “the Napoleon of pedagogues.” Lest any of our learned readers should feel inclined to fall out with their fellow headmasters about the right to this proud title, let us hasten to remind them that Napoleon was notoriously careless of human life (other than his own) in carrying out his objects. So was this Napoleon of fiction, who presided over a school “unequalled by any for examination successes.” It is thus described:—

Every examination list spread its fame. The headmaster had a contempt for traditions. He saw that examinations lead to everything nowadays, and he educated for them. They were his battlefields. Exhibitions, scholarships, commissions in the army, and lucrative appointments in the Home and Indian Civil Services were his trophies. Examiners were the divinities to whom he sacrificed. To please them the school work was, of set purpose, made dry and repulsive. History, geography, and literature had their juices squeezed out of them. The classics—those great monuments of the past!—were approached blind-

folded, and then picked at with a needle—to study construction. No general view was allowed; the gods—the bald divinities!—did not permit. The pupils were all calculators and economists. Their whole talk was about examiners and examinations, and the prizes and the chances. The school had no physical exercise. There was a playing-field some miles away, to be got at by train, but there was no time to go to it. The pupils' homes were in all parts of London, and their leisure was spent in getting to and fro by train or omnibus. The proportion of cruel and corrupt boys was large. The pace was so fast, and the studies so dry, that, in spite of the dangled prizes, many fell off. Out of the racing, they were neglected. They were thought, and thought themselves, fools. Having no sports, they turned to vice. Their daily journeys were in smoking-carriages. They loved to corrupt the young and the diligent, or to torture.

Fortunately Master Florian was overworked—being as exceptionally brilliant as it befits the heroine's only son to be—had brain-fever, and was ordered to live in the country. Thereupon Mrs. Greatheart chose her locality, got prospectuses of private schools by the score, and despaired; how to decide between the gentleman who “offered everything, ancient and modern, mental and manual, ‘together with navigation and astronomy,’ for a figure that was modesty itself,” and him whose “pupils receive a sound moral and religious training, and have a fish dinner once a week,” and the caller who has “a large staff on the look-out for a paling cheek or a languid eye”? We sincerely pity the poor lady, while we cheer up on reading this part of the book: we should rather think from the vivacity which Mr. Hartington now exhibits, and the zest with which he subsequently portrays a low-class private school from the inside, that he has learned from suffering what he here tells in lively prose. However this may be, fate and a prospectus guide Mrs. Greatheart to “Liberty Hall,” where there is “a vacancy for one pupil” and “boys are allowed to do as they please.”

“Liberty Hall” is in many ways a most delightful place. It is beautiful, and the boys who dwell there are virtuous. “There is no compulsion, no punishment”; when a boy is good he is kissed by the governesses, and when he is inclined to be bad he is “persuaded” to change his mind. There is a very large amount of osculatory exercise at Liberty Hall, and it does not seem to be used for purely educational purposes. The male members of the staff are extremely handsome, and the ladies are young and passing fair. It is a theory of the philanthropic proprietor that boys must be surrounded with objects of beauty, and the objects of beauty take kindly to the ways of the place. “He says that generosity ennoble the appearance, and he argues backwards that an ennobled appearance indicates generosity.” This is a fine sentiment, and it would be malignant to point either to logic or facts to confute it. At the same time it does seem to bear a little hardly on the would-be teacher who is conscious that he is not the proud possessor of an “ennobled appearance”: the present writer has his own painful personal reasons for hoping that the time has not yet come for this instalment of Mr. Hartington's reforms. But the headmaster's idea of the qualifications essential in his male assistants is not altogether so original as the author seems to think: ‘he gets his masters by frequenting cricket grounds, regattas, and other places where athletic youth consorts.’ The method of selection now in vogue is at times not strikingly unlike this.

We fear that Mr. Hartington will not convert many readers to a belief in the efficacy of his interesting system, because we have to take his word for it that boys will do

their lessons—we ask his pardon for using so severe a word—and be industrious, and mannerly, and of pure life, without any compulsion or supervision. As this is contrary to what most of us believe to be facts, it would perhaps be well if the author showed us the working of his methods under difficulties. The few examples he gives are not very convincing, *e.g.*—

“‘The boys, I suppose, are quite at liberty not to attend [certain classes]?’

“‘Yes; but if a boy is backward we advise him to attend.’

“‘And if he doesn't?’

“‘We advise him again.’

“‘How often?’

“‘As often as we must forgive.’”

The mere scoffer will observe that it would be simpler to tell him once and for all and have done with it. The earnest inquirer, after noting that the young hopeful may waste eighteen months or so at the rate of one refusal per working day, will wonder what happens if the much repeated advice fails to alter the boy's mind. Mr. Hartington does not gratify his curiosity on this point, as the conversation was unfortunately interrupted at this moment.

Nor does he explain why the habit of doing things which we do not like should not be taught us at school. We always conceived that to be one of the most profitable things we could learn there. It has to be acquired sooner or later, and the longer its acquisition is put off, the more pain and suffering it costs us, and the less fitted are we to live worthily among our fellow-creatures. This, however, is one of the things that the New Education, with its scorn of drudgery and constraint, and its enthusiasm for short cuts and the conventional unconventionality, unaccountably loses sight of. And that is why we are a little doubtful, in some respects, of the New Education, and would rather read about a “New Academe” than send pupils there.

NOTES AND SUMMARY.

WE began these notes last month with a reference to the proceedings of the Bangor Court of Governors then sitting. The report of their proceedings unfortunately reached us too late for insertion in that issue. They upheld the action of the Council by a vote of thirty-one to four, the Council having previously drawn up a reply to the letter of the Chairman of the Hall, in which they defended their line of conduct, expressed regret at “the unhappy differences which have arisen,” and declined to admit the claims made for the apology to which the writer of the letter considered Miss Hughes and the supporters of that Hall to be entitled. In consequence, Lord Boston and Sir Owen Roberts resigned their seats in the Court. Principal Reichel writes that “the dispute is at an end so far as the College is concerned—all three governing bodies having given their final decision.”

* * *

WE think that that “final decision” is an unhappy one for the College, but we should be sincerely glad to believe that we were going to hear no more of the whole foolish business. However, this is not likely to be the case, as some of the supporters of Miss Hughes consider that they may yet “secure some reparation” for her.

* * *

THE use of the last phrase—which is the Bishop of St. Asaph's—reminds us that, as far as the original dispute is concerned, the disinterested and unprejudiced non-Bangorian has not the least means of judging whether Miss Hughes was wrong or wronged. What he does know is that among Miss Hughes's judges were parties to the quarrel. This, as Mr. Justice Charles put it, “prevented the tribunal being of a judicial character.” Surely, then, it is not taking up an illogical position to maintain, as we have done throughout, that Miss Hughes has met with

unjust treatment at the hands of the authorities of the College, that they ought in common honour to take steps to remove her grievance, and that, until she has had a fair hearing, it is as improper to pronounce any opinion on her conduct as it is unjust to regard her as guilty. But the fact that that fair hearing is refused her certainly does lend some colour to the idea that her accusers were in the wrong. We may add that we have received the last (or latest?) pamphlet on the subject, and that we find in it no reason to change our attitude.

ANOTHER hard case, where a much more serious injustice seems to have been done, is that of Professor Aldis, who has been driven out of the Chair of Mathematics at Auckland. The facts of the case have been put before our readers before. A distinguished Cambridge mathematician was induced to accept a Colonial professorship—for which he vacated a valuable post at Newcastle—on the usual understanding that the appointment was for as long a time as he liked, unless misconduct were proved against him. Now he is turned adrift merely on the ground that the college can get the work done cheaper. We hope English University men will adopt Dr. Abbott's advice, and show what they think of this kind of conduct by refusing to apply for the vacant post.

ACCORDING to the *Pall Mall Gazette*, the first appointment to the Chalmers Chair of English Literature at Aberdeen may shortly be expected. "The candidates, so far, are Mr. Oliver Elton, an Oxford man, well known as an editor and a translator of the Scandinavian sagas; Mr. Henry B. Baildon, a graduate of Cambridge, who has been connected with Scottish University Extension, and who has written 'The Merry Month,' and several volumes of verse; and Mr. A. H. Japp, the biographer of Thoreau and of De Quincey, who is an M.A. of Edinburgh and an honorary LL.D. of Glasgow." It can scarcely be said that Mr. Baildon or Mr. Elton has done anything to qualify himself for such an honour (and reward) as a Scotch professorship. We suspect the "field" will be a much larger and stronger one than this before the appointment is made—an event which we have reason to believe will not take place for some months yet.

THE time having expired for which the grant in aid of the English University colleges was originally made, the Chancellor of the Exchequer has been waited upon by a deputation of principals and other representatives, who sought its continuance and its increase. The whole amount is only £15,000, and this is at present divided among eleven institutions. Sir William Harcourt was unable to hold out any hope of the grant being augmented, but he gave the assurance that it would not be dropped. He also let fall a hint that King's College, London, would not share in the subsidy in future unless it abolished its "tests" for professors.

A CHARTER has been granted for the creation of a University of Wales, which will consequently come into existence as soon as the necessary preliminaries have been complied with. In all essential points the draft Charter—of which we gave a full account in our issue of September—has been approved, the opposition offered to it in the House of Lords having been disregarded. Bangor, Aberystwith, and Cardiff are the three constituent colleges, power being reserved to the Privy Council to add to their number as occasion requires. Attendance on Extension and other lectures may be accepted as equivalent to some part of the terms of residence in a constituent college. Women are placed on a complete equality with men in regard to degrees and University offices.

THE appointment of Professor Caird to the Mastership of Balliol renders vacant the Chair of Philosophy at Glasgow. It is a most honourable and desirable post, and candidates will probably not be few in number. Mr. Henry Jones, at present Professor of Logic and Philosophy at St. Andrews, is mentioned as the favourite. He left Bangor for St. Andrews on the appointment of Professor Seth to the Edinburgh chair, and is a distinguished *alumnus* of Glasgow.

"ONLY A PARENT," and other persons like him, write to the papers to complain that holidays are not fixed in accordance with their convenience. The particular plaint for which our pity is asked just now is on account of an alteration to be made at Haileybury. "Only a Parent" says that "most parents object." If this is so (and we should like to know how the

fact has been ascertained), we have no doubt that representations to Mr. Lyttelton would induce him to change his arrangement. But does "Only a Parent" suppose for one moment that any headmaster (or anyone else) can fix dates which will equally suit the convenience of each out of several hundred parents? If so, he is sanguine. Meanwhile, let us point out to him for his comfort that he has a much more effective remedy than publishing his woes in the journals. He may talk as much as he pleases of "the despotism of headmasters," but these tyrants cannot force him to commit his offspring to them. They can only insist that, if he does so, he shall abide by the rules of their schools.

* * *

THE unreasonable parent is, as every schoolmaster knows, very much more trouble to the teacher than the idle or vicious boy; but even the unreasonable parent (says a contemporary) does not often behave so foolishly as a gentleman who has recently sent a very full account of his silliness to a Liverpool paper. It appears that Mr. A. McCulloch had four hopeful and well-conducted sons at the Merchant Taylors' School (Liverpool); that he kept Master William away one day to go to a yacht race; and that he was very indignant because the headmaster (Canon Armour) refused to have the boys at his school unless the parent would promise to observe the rules in future. Mr. McCulloch thereupon wrote angry letters to Canon Armour, and got snubbed; appealed to the Merchant Taylors' Company, and got snubbed again; and now publishes the whole correspondence, in order that his friends may enjoy his snubbing. It is a pleasant encouragement to sensible headmasters, and may act as a warning to irrational papas. Canon Armour is much to be congratulated on his firmness, and the proper way in which his governors supported him.

MR. H. P. GURNEY, who ought to know as much about the examinations for the Indian Civil Service as any man—except, perhaps, his partner, Mr. Wren—calls attention to the striking decrease in the number of candidates at these competitions:—

It is reported, on apparently good authority, that a very few days before the time for closing the entries in 1892 only 31 names for 32 vacancies had been sent in to the Civil Service Commissioners. At the corresponding date in 1893 it is said that only 45 men had entered for 56 vacancies. Formerly, without any effort to hunt up candidates, the numbers for this important competition exceeded 200 and even 300.

It was hoped that by raising the age limit the Commissioners would get the pick of young University men; but it is harder to attract to India a few men of brilliant promise and some achievement, well on the road to success at home, than it is to get any number of hopeful boys. Yet it is imperatively necessary that the Commissioners should have a large area to select from. No doubt they will get it when it becomes generally known how much more chance the second-rate men have than they used to have; but then it is not the second-rate whom India most wants.

THE correspondence that has been going on in the *Times* and other newspapers as to the endowment of Extension is understood to be the prelude to the deputation which is about to approach the Chancellor of the Exchequer on the subject. Those who are most prominently connected with the movement in the public mind seem to be unanimous as to the desirability of such aid, though they do not all advocate it on the same ground. It is suggested in some quarters that the subsidy asked for should be devoted in the first instance to the Colleges at Reading and Exeter.

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It is Mr. Michael Sadler, the secretary to the Oxford Society—whose letter reaches us from innumerable provincial papers—who suggests that £1000 a year should be allotted to each of the above-mentioned centres. Principal Heath, of Mason College, Birmingham, has "a word" with him on this point:—

Mason College, with all its expensive laboratories, that need constantly to be supplied with the costly apparatus for advanced work, its library of scientific transactions and advanced treatises constantly requiring additions, and with its 500 systematic students, has only received £1,400 a year. What should be the grant to University colleges, if Reading and Exeter are to receive £1000 each?

MR. HEATH also objects to Mr. Sadler's statement that "University Extension tries to do for small towns something like the work which a University College does for a great one:—"

I do not think that this statement can for a moment be maintained. Let us institute a comparison. Of late the University Extension movement has spread rapidly, and the work has increased enormously, but chiefly in the direction of short courses of six or ten lectures. The lectures appeal to two different classes of the community: the afternoon lectures are attended chiefly by ladies and other persons of leisure who have an interest in literature, history, and art; the evening lectures are directed more especially to workmen. The lectures are very carefully prepared, admirably-delivered, and illustrated by lantern-slides, diagrams, &c. They are without doubt highly stimulating and suggestive, and, in the case of the evening classes, lift the workmen out of the plane of humdrum toil to that of highly intellectual enjoyment. So much can certainly be said for University Extension. At a University college, on the other hand, the study is continuous and systematic. If a student wishes to become a proficient in chemistry, for example, his work is extended over three years, and includes a study of mathematics and physics, and also a prolonged course of instruction in costly laboratories in the use of instruments of great delicacy and intricacy. It is found (and I think Mr. Sadler will agree with me in this) that three years is by no means too long for the acquirement of a fairly intimate knowledge of the science. A similar course of study is followed in literary subjects. If three years is not too long, what can be accomplished, I ask, in six or ten lectures, with as many exercise classes? There is indeed no comparison between the work of a University college and that of the greater part of University Extension courses.

CHRIST'S HOSPITAL is in rather a sad plight. The outbreak of scarlet fever was grappled with promptly, the sick boys isolated at once and carefully tended, and the others sent to their anxious parents. If the sanitary arrangements of the school had been in proper condition, there would probably have been no necessity for the dispersal; but now that these have been thoroughly examined, they are found to be in such a bad state that the boys could not be allowed to re-assemble in Newgate Street unless a radical alteration were made. The improvements required are very costly, and it would be a great pity to lay out a large sum of money on buildings which will be vacated as soon as those at Horsham are ready. On the other hand, it is no easy thing to find a temporary abiding place for a large school, and of course the boys cannot be allowed to remain idle during an indefinite period which will be several months at least. So the Governors have their troubles. The boys are reported to be enduring their enforced withdrawal from study with considerable fortitude.

THE publication of the Royal Commission's report on a new University in London still hangs fire, though for a long time we have heard that it was expected daily. The *Athenæum*, at the beginning of last month, announced that the report on the Charter was practically settled, and that it would recommend a modification of the existing institution rather than the foundation of a new one:—

Consequently, unless a statutory Commission is proposed, the initiative must rest with the Senate of the London University, as the colleges will not, of course, be concerned to promote the new scheme; while it is most unlikely that the Government will attempt any legislative action in the present state of parliamentary business. Negotiations will thus have to be reopened on the part of the Senate with the colleges and medical schools and with Convocation, at the cost of a further and (it is to be feared) a long delay.

We rather think, however, that the Commissioners are not so near unanimity as this well-informed journal implies, and that there will be a vigorous minority report.

MR. CURT ABEL-MUSGRAVE has sent us a little pamphlet which he calls "The Caricature of German in English Schools." It is a very savage attack upon some of the Grammars written by Englishmen, a good many of the author's points are rather trivial, and at times he is inclined to write the grammarian down an ignoramus for differing with him on a debatable matter. At the same time he shows us in some cases an uncommonly large number of blunders; and we are inclined to think he may do good if only in the way of making school-book writers a good deal more careful. It requires more than a tolerable acquaintance with a foreign tongue to write a book about it, as Mr. Abel-Musgrave shows. We have just received some remarks on Mr. Abel-Musgrave's criticisms, which we hope to find room for next month.

ONE of the latest products of the increasing taste for English games in Germany (writes a correspondent) is a German

version of the rules of Rugby Football, by Professor Ullrich, of Heidelberg (published by Lion, Hof). It is most interesting reading, exemplifying both the skill of the translator and the versatility of the language. Among our old friends with a new face, *Gefecht*, for "scrummage," savours a little of militarism. *Lufttritt*, "punt," shows distinct imagination, and *Wurftritt*, for a "drop," is perhaps as good an attempt as can be made at an insoluble problem. *Seitenfeld* for "touch" is to the point, and so is *Malfeld* for "in goal," but the translator's greatest triumph is achieved in rendering "off-side" and "on-side." *Spiel-fremd* and *spielberechtigt* are a liberal education in themselves. To "kick a goal" is *einen Treffer treten*, but even the Professor has not tackled ("to tackle," *fassen*) the translation of "to drop a goal." Perhaps he has realized that that ineffable pleasure, once "the roof and crown of things," is shorn of its old glory. It is now included under the heading, *jeder andere Treffer*, and counts one point less than *ein Treffer von einem Versuch*.

THE untimely death of Mr. Charles A. M. Pond, Professor of Classics and English at Auckland University College, N.Z., puts an end to a notable and what seemed likely to be a very brilliant career. "I knew Pond," writes a correspondent, "when he was a boy at the City of London School, some fifteen or sixteen years ago. He had come there on a London School Board scholarship from an elementary school, and rapidly made his way to the front, as much by his diligence as by his very considerable natural powers. A certain frankness and pluck distinguished him then, as they evidently did later, when, after his appointment to the New Zealand professorship, he wrote a letter to the Clerk of the London School Board publicly acknowledging his indebtedness to that body for his start in life. Most young University men of six or seven-and-twenty who have got on, and thus moved up in society, are not anxious to remind their new friends and their colleagues of their origin. After leaving Dr. Abbott's care, Pond went to Cambridge, where he took his Firsts with distinction in the two parts of the Classical Tripos, got a Fellowship at St. John's, was elected to the Prendergast Greek Studentship, and went abroad to study in Germany. He was a fine fellow, and experts say that he would have done valuable original work had his life not been cut short when he was barely 'in the thirties.'"—*St. James's Gazette*.

THE account of the examination of Dr. Klein in the Croydon Bankruptcy Court last month will probably be interesting and instructive to some of our readers. The debtor stated that he "got his title from Berlin," and that he was F.R.G.S. and F.R.Hist.Soc. With these good and sufficient qualifications he conducted the "Civil Service Institute" in Cannon Street, and had a hand in several school ventures. Finding apparently that the duties of "Principal" of one place, "Warden" of another, and managing proprietor of a third, were not enough for him, he dabbled in literature. Three years ago he started and conducted an educational paper, which he subsequently sold (according to his account) on the understanding that he was to have £80 in cash and £1,500 in shares. He got nothing, however, he said, though the Registrar cruelly suggested that he had "the honour and glory of it." The debtor estimated the copyright of his "Works" to be worth £100; but possibly Dr. Klein is in this, as in more than one other respect, over-sanguine, since they do not appear to have ever returned a profit to him. Teachers of either sex who are thinking of buying partnerships or engaging in transactions with purchasers of schools and coaching establishments might profitably study the accounts of the examination with much care. They show that extreme caution should be used before embarking time and money in such undertakings.

THE Rectorial Elections at the Scotch Universities resulted in the victory of Sir John Gorst over Mr. Asquith at Glasgow; of Lord President Robertson over Lord Reay at Edinburgh; and of the Marquis of Huntly over Mr. W. A. Hunter, M.P., at Aberdeen. They were all fought on purely political lines.

THE annual dinner of the Oxford, Cambridge, and London Extension Lecturers will take place in the metropolis on January 3rd.

THE extension of the buildings of the Medical School in connexion with St. Thomas's Hospital, is now being rapidly proceeded with. It is hoped that the additional accommodation—which will have cost some £15,000—will be ready soon after Christmas.

MISS ALICE COOKE, who two years ago won a Berkeley Fellowship at

Owens College, has been elected Lecturer in History there. We believe this is the first appointment of a woman as lecturer to students of both sexes in any University college.

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MR. A. C. DIXON, Fellow of Trinity College, Cambridge, has been appointed Professor of Mathematics at Queen's College, Galway. Mr. Dixon was Senior Wrangler in 1886, and divided the Smith's Prizes with Mr. G. H. Bryan, of Peterhouse. He also took the Gold Medal at the London University M.A. Examination.

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MR. H. HOLMAN, of Caius, has been appointed to the newly-created chair of Education at Aberystwith. He took a First Class in the Moral Sciences Tripos, and was the first Lecturer on Pedagogics at Aberystwith.

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MR. G. A. SCHOTT, B.A., Scholar of Trinity College, Cambridge, and B.Sc. of London University, has been appointed Demonstrator in Physics at Aberystwith.

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THE REV. D. LEE, M.A., for many years Senior Master at Camberwell Grammar School, has been appointed Headmaster of Deythen School.

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MR. T. W. ALLEN, M.A., Fellow and Lecturer of Queen's College Oxford, has been appointed Classical Lecturer at the Royal Holloway College; and Mr. W. Cassie, M.A., late Scholar of Trinity College, has been appointed Professor of Physics (in succession to Mr. H. L. Callendar) in the same institution.

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MR. CECIL W. KAYE, M.A., Assistant Master at Uppingham, has been appointed to the head mastership of Loughborough Grammar School.

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DR. PERCIVAL has accepted the Presidency of University College, Bristol, in succession to the late Dr. Jowett. The post is scarcely more than ornamental. Dr. Percival's close connexion with the town and institution, dating from his headmastership of Clifton, makes the selection peculiarly appropriate.

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THE financial difficulties in connexion with Mr. Henry Goudy's acceptance of the Regius Professorship of Civil Law at Oxford having been overcome, he will shortly take up residence there.

THE Marquis of Bute has given £1,000 for the purpose of founding a Dundee Bursary in St. Andrews University. Having regard to Lord Bute's views on the dispute now pending, it may be well to add that the Bursars will be allowed to pursue their studies either at Dundee or St. Andrews. The donor accompanied his gift with the following letter to the Lord Provost:—"I at one time entertained the hope that in connexion with my installation as Rector at St. Andrews, which is fixed to take place next week, I might have been able to deliver a supplementary address at Dundee. I find that this is more than I can undertake, but I am unwilling that the occasion should pass without some expression of my friendly feeling towards Dundee, and I therefore give myself the pleasure of sending your Lordship the enclosed. Perhaps it is better, as it will be of some permanent good, instead of a half-hour of very indifferent talk."

TWELVE entrance scholarships (£50 to £75), tenable for three years, will be offered for competition in July next, at the Royal Holloway College. Further information may be obtained from the Secretary of the College.

THE death is announced of Mr. Samuel Batty, of the Bradford Grammar School. Mr. Batty, who was upwards of seventy years of age, was connected with the school long before it entered upon the present stage of its development, and served it faithfully as assistant master, and latterly as Secretary to the Governors, for four and forty years. His loss will be much regretted by many old Bradfordians.

THE GOVERNESS AS TUTOR: CHARLOTTE BRONTË'S "LOUIS MOORE."

THE masculine critic approaches the topic of Louis Moore with a certain prejudice against that person. To suffer through such a prejudice is, indeed, the lot of most of the men that authoresses have devised. To analyse the objection would be difficult; possibly we do not like to see feminine adoration misdirected. Even the mildest men cannot endure Daniel Deronda, Rochester we treat with derision, mingled with undeniable bitterness, and there is more pleasure for us in finding faults than virtues in Louis Moore. We are necessarily critical. It is a primitive necessity.

It is no consolation that Shirley is so delightfully wayward,

and that intercourse with her is a liberal education. If anything, it increases our displeasure with the too fortunate Louis. One perceives the lack of discrimination only the more acutely, since Shirley commonly has no lack of discrimination. And there is certainly a flavour of sympathy with the indignant Mr. Sympson.

The reader will remember that Mr. Sympson was the uncle of Shirley, and, at the climax of the story, he came down in the early morning time, and in a dressing gown, to find our two young people grouped very prettily together. He displayed himself then, as Shirley said, "*commun, plat, bas—vilain et un peu méchant*." He said things warm and living from his disappointed heart, for he designed "better things" for his niece. Some of the more select of these things he said—and none of them were very select—Charlotte Brontë tells us, the others she hints at. Mr. Kipling would probably have told us all.

It has been laid to the charge of Charlotte Brontë that she lacked catholicity, that she wrote her novels with a purpose. Her sympathies were overmuch with the governess, we are told, her thoughts gravitated towards the schoolroom, there are always exercise-books lying about. Mr. Lang, in *Good Words* some years ago, pointed out this objection, and no doubt it seemed a very serious defect to the good people who read *Good Words*. And her purpose was the revolutionary one of establishing the humanity of this governess.

According to the views of Charlotte Brontë, the governess was also a woman. Her other books tell us of the governess in love, the governess, poor modest little Psyche, being loved. In "Shirley," Mrs. Pryor is the governess as mother, nursing her daughter Caroline and praying for her, unrecognized and unsuspected. And in "Shirley," where the heroine is not a governess, the peculiar bent of Charlotte's mind is, thereby, even more apparent. For Louis Moore is a private tutor in the Sympson household, a governess thinly disguised by his sex. The curate, the manufacturer, the ballad-bearing baronet, go down before him in the lists of love.

Quite apart from the offence of his success, however, there arises a certain critical depreciation of this person. He has great abilities and a good education, force, and munitions—and he is, if anything, over thirty years of age. His character is built upon statuesque lines. "A man whose approbation can reward—whose displeasure punish me," says Shirley. "A man I shall feel it impossible not to love, and very possible to fear." The dog Tartar follows him about worshipping him—a very significant thing in a novel written by a woman. He has a fine physique, and almost strangled the unhappy Sympson in the end for saying unprintable things.

Now this man is private tutor, nurse almost at times, to the son of a preposterous Philistine who writes himself down "Simpson," and whose wife and daughters are on the level of his ambitious feeble spelling of his name. It is a singularly modest position. May we not ask of this fly in amber, "How did he get there?"

In transposing from the key of governess to that of private tutor, Charlotte Brontë seems to have overlooked one very essential difference. The governess in her days, and to a lesser extent it is true of the governess of to-day, was a governess by the force of circumstances quite beyond her control. Her father, or brother, or uncle, wasted his substance, and cut her off from independence; she had to suffer. She might be a girl of regal intellect and character, but that did not matter. The way to the stage was not only narrow but noisome, there were no nunneries in England, and governess she had to be perforce. Other professions for women had not begun.

But Louis Moore was a man. The world was all before him. There were, for instance, the fascinating scrimmage of the London press, the professions, the selva to civilization where manliness is at a premium, and the sea. At the time of the story, all Europe was stirring with war, and Louis is enduring the snubs of the Misses Sympson and the moods of their father with, we must submit, a shameful patience. He takes a pride in not "allowing" Sympson to swear *directly* at him, a pride eloquent of his position. There is surely something wrong here.

The fact of it is, Louis Moore clearly has one defect of character, though our authoress, for some reason, does not admit it. Otherwise her "Shirley" is an altogether incredible story. At first he suffers from infirmity of purpose. His philosophical calm is not virile, in spite of her. This lack of self-assertion, of will to have what his heart desires, is unwholesome, an altogether feminine diffidence. He is like a man sitting moodily in a prison cell, with the door unlocked and unguarded. With such a defect declared, he becomes at once a possible man. In the actual story he

appears strong and masterful from the first, influences Shirley profoundly, and seems scarcely to be re-acted upon. But if we may take the liberty that seems necessary, we may imagine a very natural reaction. Your man of crippled purpose needs but a look, but a word. He may be healed in a moment by a sufficiently inspiring voice that bids him take up his bed and walk.

The class of private tutors, or "governors," as they were called earlier, is probably a vanishing one. Although education is cheaper, educated men are more independent. But, with the gloss we have ventured upon, the character of Louis Moore will still be a type. One might, even in the limits of one's personal experience in our profession, find specimens of the man whose intellect is better than his will, and who groans beneath the easily broken yoke of some reproduction of the overweening Sympson.

Unfortunately it does not fall to the lot of every Louis Moore to have a Shirley to set him stirring. If this should meet the eye of any man who finds his affinities here, let him be advised and not wait for her advent. Wanting a Shirley, our friend, in the dusty circumstances, is ill advised to take refuge in silence and epigrammatic reflections. Life is full of good things. And as Louis Moore found at last, the good things of life come to those who have the courage to take them. Keep wanting is an excellent working principle for everyday use. Contentment, when it means the waste of human possibilities, may at last be even a tragic thing.

H. G. WELLS.

SECONDARY EDUCATION OF GIRLS IN FRANCE.

By the Rev. WILLIAM BURNET, M.A., British Chaplain at Lille.

THIS is a branch of education which only quite recently has been taken in hand by the State in France. Ever since 1870 primary and elementary schools for both sexes have been multiplied throughout the country, and worked in many respects on a very admirable system. Lycées and colleges for boys of the middle and higher classes too have long existed, and no pains have been spared in their improvement. But the higher education of girls was, until a few years ago, left altogether to the care of families, convents, or private schools, and was, in many cases, very imperfectly attended to.

What Archbishop Fénelon said in his days, "*Rien n'est si négligé que l'éducation des filles*," was indeed no longer true. Still, on the whole, the intellectual standard was not as high for girls above the artisan classes as for boys. In 1867 M. Duruy, then Minister of Public Instruction, resolved to remedy this defect, by devising a system of classes for their advanced teaching, which met with a certain measure of success. In a circular-letter issued by him in that year he lamented that the assistant mistresses in the normal schools were better instructed than many girls to whom birth and fortune had assigned a higher place in society. His plan was extremely simple and inexpensive. Courses of lessons, literary and scientific, in connexion with the Sorbonne in Paris, and with the lycées for boys in the large towns, were opened by the professors, for girls from fourteen to seventeen or eighteen years of age. These extended over from three to four years, concluding with a final examination for diplomas. The terms were very moderate, only 20 francs per month for six or seven months in the year, for the payment of the professors and other expenses. The results, however, though highly beneficial, were very limited, only twenty-four of these courses being established in Paris and in a few of the provincial towns. The troublous times of the German war and the Commune also seriously retarded the movement. So it began to be felt that something must be done on a larger scale, and of a more permanent character. Nine years afterwards M. Camille Sée introduced a much more effective and extended scheme for the establishment by the State of public lycées for girls, very similar to those for boys. The public mind had, in the meantime, been gradually awakening to the importance of the subject. The moment was propitious, and, after some further delay, in 1880 a law was passed enacting that the State, with the assistance of the Departments and Communes, should open such "high schools," as we should call them, for day pupils only, except where the municipal authorities should deem it necessary to provide for boarders. This somewhat adventurous step appears to have already proved a great success. There are now twenty-five lycées and twenty colleges for girls, besides 172 "cours," in all of which some ten thousand pupils are receiving a "higher education." Into these lycées and colleges girls of twelve years of age are admissible after an examination, and may remain there until they are seventeen, when they are again examined for diplomas. A directrice, or headmistress, presides over each establishment, the instruction being given by professors, ladies or gentlemen, a lady teacher being always present when the lesson is given by a gentleman. The course is very extensive, including moral instruction, French, one modern language, ancient and modern literature, geography and cosmography, history, arithmetic, elements of geometry, physics, and natural history, hygiene, domestic economy, notions of common law, needlework, drawing, modelling, music, and gymnastics. These are the subjects prescribed in the official programme. It certainly does not err by defect. Dr. Rochard, in his recent admirable treatise on the "Education

de Nos Filles," criticises it somewhat caustically, perhaps not unfairly. "One asks oneself," he says, "how men of high ability could conceive the idea of putting all this into the heads of young girls in the course of five years. The life of an industrious man would be hardly sufficient for the purpose." If it be pleaded that it is only intended to give a smattering of the more difficult of these subjects, he maintains that such superficial teaching is dangerous, as likely to breed conceit, and because nothing is so hard to retain in the memory as compendiums of knowledge. It must be admitted that, to a certain extent, the Doctor is right. Still, in the present day, when young people are expected to know a little of everything, we fear that his protests will scarcely be heard. Although some pupils will end by knowing nothing of anything, to others it is an advantage to obtain even a slight glimpse into a variety of subjects, some of which they may afterwards pursue more fully. The horizon of their intelligence is thereby enlarged, and they see, at any rate, how much yet lies beyond their ken, and they are, in a measure, prepared to enter intelligently into the conversation and literature of society. There is consolation, moreover, for the teachers and the taught in the Latin saying, "*Aliquid hærebit*."

At the same time, no doubt, this experienced educationist has done well to sound a warning note against the tendency of the age to be superficial in knowledge, and to sacrifice thoroughness and accuracy to more general and hazy ideas. This is, however, a question which it is not our present purpose to discuss further. As the French say, "*Revenons à nos moutons*." The success of these institutions, it has been justly felt, must depend very much on the careful training of the teachers. Accordingly, French authorities have established an excellent Normal College at Sèvres, near Paris, from which, as from a fountain head, well-qualified mistresses are sent forth year by year to the various lycées through the country.

One evident lacuna in the original scheme has been since filled up. As the pupils are not admissible under twelve years of age, and their previous education would have had to be conducted at home or in the primary schools, or in private institutions, it has been found necessary to open elementary classes in connexion with the lycées, where a suitable preparatory training may in all cases be secured. Another commendable feature of the scheme deserves special mention. The course is divided into two distinct periods. The first is for girls from twelve to fifteen years of age, in which all have to pursue the same studies. The second is for girls from fifteen to seventeen years, when they may choose between scientific and literary subjects, and may follow one line of studies or both, as they feel disposed, or are capable of doing. By this arrangement it is intended, on the one hand, to make the way easy for those that have passed through the primary schools to take up the more advanced subjects; and, on the other hand, to allow the older girls, during the last two years, to acquire a more thorough knowledge of those subjects to which their abilities and tastes incline them. Absolute and rigid uniformity is thus avoided.

Inasmuch, too, as the class hours during the second period are shorter, being twelve per week instead of twenty (two hours in the morning and two in the afternoon for five days a week), the older girls have more leisure for home occupations, and for learning the duties which may afterwards devolve upon them as wives and heads of families. One all-important point must not be omitted. We are glad to add that religious instruction is not lost sight of in these institutions, for, although it does not form part of the prescribed course, it may be given at the desire of the parents, by the minister of religion in the lycées, out of school hours.

Having described at some length the provisions made by the State in France for the secondary education of girls, which, being a new departure, is of special interest, we have not space to say much about other institutions for the same purpose. It will, of course, be understood that these lycées and colleges educate only a small proportion of the girls of the upper and middle classes. Alongside of them a very important work is still being carried on by private boarding-schools, or *pensionnats*, and in the convents. The latter are generally preferred by the more religious Roman Catholics of the higher classes. In Paris alone there are at least thirty religious orders who devote themselves to this particular occupation, and they have branches in different parts of the country, especially in the South and West, and they are very strong in Brittany. The nuns, being often ladies of high birth and culture, can impart a moral and social tone superior to what is usually found in public colleges. Whilst they assign a prominent place to their own religious teaching and observances, they are well up to the mark in the mental training of their pupils. In their schools, as well as in the *pensionnats*, the same subjects are, for the most part, taught as in the lycées. The wholesome rivalry with the secular institutions, and the necessity for preparing many of their pupils to be examined for *brevets*, compel them to adopt the best modern methods. Hence the standard of education is everywhere being sensibly raised, and a steady advance is to be seen in every direction. In France, as in England, there is the same disposition to unduly multiply the subjects taught. Too much is often attempted, and too severe a strain is imposed, which may fatally injure the bodily and mental health; still, in the education of girls, as well as of boys, the French are more alive than they were to the importance of active games and exercise. In the lycées gymnastics forms part of the prescribed programme. Much, in fact, is being done for the cultivation of the "*mens sana in corpore sano*."

“BARRING-OUT DAY.”

OF strikes and lock-outs we hear more than enough nowadays but schoolboys no longer indulge in them. “The youngest of us who can remember a barring-out day are, alas! turned grey,” sighs a writer in the *Middlesborough Daily Gazette*. Under these circumstances it is justifiable to suppose that a good many persons will be interested in his clever account of an ancient school usage, now fortunately a thing of the past.

School life in a country village forty years ago was very different from what it is now, and among the few exciting events of the year, the 5th of November was to my mind a royal day, for on that day we always fastened the master out of the school in order to extort from him the promise of a holiday. In the particular case of which I speak—a village in North Yorkshire—the custom appears to have been associated with Gunpowder Plot, but its origin was probably independent of that historical event, for I am informed that it was practised on other days in different parts of the North under the old *régime*. However, let that pass.

On a sharp and bright November morning in 1849 it might be seen there was something unusual astir, for every boy who habitually came to school late, and came then unwillingly, was seized with a sudden attack of punctuality; nay, something more than punctuality, for the whole school had assembled before nine o'clock—the hour of opening. The master had some distance to walk from his own house, and I can well remember how I was kept at home until after he had passed, so that I should not be in any mischief. But such a simple contrivance showed little knowledge of a lad's resource when excitement was astir. A slight deviation from the road and a run across a field or two easily put me well to the front, and when I reached the school I found it full of boys in the greatest of excitement. Two or three scents were on the look-out to see when the “maister” should come into sight at the turn of the road. The “maister” passed no scholars on his way to school that morning, and, though we did not think of it, I daresay he was himself enjoying the thought of a holiday. He was a little dapper man, gentlemanly and somewhat pompous, in spite of which, however, we irreverently called him “Snuffy,” in allusion to the frequent refreshments of his nasal organ from a small box. He was “passing rich” on £50 a-year, was untroubled by thought of inspectors and examinations, and on hot days in summer, when not occupied in printing ornamental headings to exercise books, sometimes had half-an-hour's nap, to his own great comfort—and ours.

On this particular morning, on reaching the humble-looking building in which he taught, he was confronted with a document fastened to the school door. It was written in pencil, and as a sample of writing was not particularly creditable. The legend ran thus—

“Orders, master, orders;
Orders, if you please;
If you won't give us holiday,
You may stay outside and freeze”—

which, if not a model of propriety, had at least the merit of forcibly expressing its object.

It will, perhaps, be wondered that, considering the severe discipline maintained by these ancient dominies, the scholars had courage to carry out such a plan, but it must be borne in mind that in those days there were often to be found in village schools two or three scholars from sixteen to eighteen years of age. These had seen several “barrings” and had survived. Custom, too, was very tenacious, especially when it involved the granting of a holiday; and, although the younger portion of the scholars might have qualms, numbers gave courage.

The excitement of the day was at its height when the master reached the school door, and the scene inside was indescribable. The bigger boys were near the door, one having his hand upon the key and his eye peering through the keyhole. The paper is read by the master, the door is tried, and then the words “Open the door,” in the well-known voice, are heard by all. A nameless dread seizes the younger portion.

“There was silence deep as death,
And the boldest held his breath
For a while.”

One urchin, with a look of alarm, stops with his leg half-way over a desk; another, who had been poking the fire, turns round, and, dropping the poker from his hand, with apprehensive face looks round for some place of safety. The big boy with his hand on the key is a hero. He can hear the command from that voice not a yard from him, and yet he flinches not. How much courage an inch of deal board can give! The order is repeated, but no reply is given. The strength of the garrison lies in firmness, and in view of future events a parley with the enemy is hardly safe. The master now speaks in a more angry tone, threatening punishment if the door is not unlocked at once. But there is no retreating now when matters have gone so far.

After a few more minutes of scolding, seeing he is getting the worst of the contest, and probably as glad as we to get a day to himself, even at the expense of wounded dignity and temporary loss of authority, he gives

the word for a holiday. Then the schoolroom, which to an outsider might have been thought to be empty, echoes with a tremendous shout. The bigger boys now hastily get the younger portion into their places preparatory to opening the door. The latter operation is a matter of great art, for no one even now is willing to be identified as a ringleader by opening the door. A moment is chosen when the master is not trying the latch, and, when he walks in, the boy who turned it is quietly sitting at his place like the rest. Little is said by the way of fault-finding. The master is evidently mollified by his resumption of authority, to which it is a distinct relief to many of us to submit once more. We have gained a holiday, and in a few minutes are scampering off with a whole day before us to prepare for the great bonfire in the evening.

Such was barring-out day in the olden times. How changed everything is now! There is nothing exciting or romantic about school life now—no “creeping like snail unwillingly to school,” although the “shining morning face” is still seen in the lanes. The old school has long been pulled down, and there is not even a schoolmaster now. He is only a teacher under a Board. Methods of instruction have vastly improved, books have increased a hundredfold, and barring-out day has for ever gone. Under the old *régime* the attendance was very irregular, many children spending weeks together in field work. This was, perhaps, on the whole, not so great a disadvantage as is usually supposed, for, however much it impeded book instruction, it gave children an opportunity of training their hands in the work to which they would ultimately turn for a living. Then the best scholars stayed at school to a much greater age, and afterwards went as apprentices. Now they leave at an earlier age, and are ambitious of a black coat and a seat upon a stool in an office. The old schoolmaster sleeps under a tree in the churchyard. He did his duty to the best of his ability, and if he did not fit us for passing examinations he taught and enforced ready obedience and respect for others and did his best to make us into honest and God-fearing men. *Requiescat in pace.*

BOOKS OF THE SEASON.—GIFTS AND PRIZES.

(Concluding Notice.)

MESSRS. W. & R. CHAMBERS.

The publications of Messrs. Chambers include a number of volumes of high excellence as gifts for the young ones. Notable amongst them is Mr. DAVID KER's *Prisoner among Pirates*; and the volume is no wise unworthy of that most exciting romancer. Indeed, in point of variety of incident it would be hard to find a book which surpasses it. It deals with the days and doings of the terrible corsairs of Tunis in the days of the Lord Protector and Milton, both of whom are introduced, in a very brief but very well written chapter, with some small disregard for the actualities of history. The first chapter introduces us to the deck of a corsair, and paints the horrible death of one John Warborough, a white captive, for his heroic refusal to pilot the vessel into the harbour of the town which is the object of attack. The story turns upon the adventures of his son in the search, first for news of his father, and then for vengeance upon his murderers. The son, also named John, is a fisher lad, who is carried out to sea, and there run down and rescued by a passing merchant-man, some years after the disappearance of his father. He joins the crew of the *Lion*, and there learns how his father died. Fortune brings the *Lion* into the clutches of a pirate ship, and John and his comrades are captured. The story then divides: one thread follows up the adventures of those who were carried to Tunis by the corsairs; the other relates how John, and others of the *Lion's* crew, overpower their captors, recover the ship, and carry her to Gibraltar, then in Spanish hands. Meantime, Cromwell has ordered Blake to demand the liberation of the white captives in Algiers and Tunis. The hero escapes from Gibraltar to Blake's fleet, and serves on board the flagship in the famous bombardment of Tunis in 1655, where the other persons of the story are at length rescued, after perils and trials marvellous and manifold. But it is possible to give but the merest sketch of the intricacies of this complicated plot, which must be read to be understood. There are several good illustrations, and it is a pity there are not more, for the story offers subjects in plenty.

In *In the Land of the Golden Plume*, Mr. DAVID LAWSON JOHNSTONE, another experienced writer for boys, relates the experiences of two brothers, Frank and Walter Henderson, who first meet us in a fight with the Queensland blacks at a frontier station in the bush, and subsequently go upon a gold-seeking expedition with their father into the heart of New Guinea. Various and exciting are their adventures, and many their hair-breadth escapes from Papuans of all sorts, not omitting the grisly Head-Hunters of the interior. Thanks, however, to the devotion of Wapuri, a young native chief, who binds himself to the service of one of the young Hendersons by the native ceremony of the “brother-in-blood,” the whole party escapes in safety, and achieves its object. They obtain possession of the great idol supposed to be manufactured from a nugget of solid gold, and, finding it to be merely “Brum-magem,” compel its adorers to repurchase it at the price of all the available gold of their tribe—an amount which makes them rich to affluence, and sends them home to the Old Country, after such a series of perils and deeds of derring-do as will arouse the envy of every boy who reads them.

The Lost Trader; or, The Mystery of the Lombardy, by HENRY FRITH. Urban Godwin was commander of the Indiaman *Lombardy*. His crew mutinied, and were turned adrift in the boats. It was certain that they would return and attempt to surprise the ship, which was laden with treasure, and, therefore, the passengers and such of the crew as remained loyal, also took to the boats—taking the treasure with them. The captain remained on board, and was surprised as he expected. His vessel became a pirate ship, and he himself was marooned on an islet. One Captain Onesimus Martin found the “message from the sea” which told of his plight, and, on the strength of the message, his two sons, aided by Martin, fitted out the barque *Hope* to seek him. How they fought and vanquished a Frenchman; how they were captured by the *Lombardy* herself; how they drifted upon the same islet where Captain Godwin still lived, and found there a pirates’ treasure cave; how, after many vicissitudes, they recovered the *Hope*, seized the treasure, and returned to England—all this the fortunate reader shall discover for himself in this very brightly written and thoroughly sailor-like book.

Mr. J. S. FLETCHER recounts *The Wonderful Adventure of Walter Trelawney*. Trelawney is a ‘prentice of Plymouth, who lived in the days of Good Queen Bess. He tells (in the first person) how he took ship with one Captain Barnaby Bluelights for the Gold Coast, where they fall in with an Englishman who had for five years lived in captivity amongst the tribes of that quarter. Under his guidance they make a fruitless attempt to seize a store of treasure concealed in a cave of the interior, and, being foiled by dread of the plague, they turn back, and take to the less risky and very profitable trade of slavers. Here, too, the plague spoils their venture, and their attention is now turned to the war with Spain, and the “singeing of the King of Spain his beard,” by Drake at Cadiz. Therefore they take to privateering, and get carried prisoners to Spain for their pains, Trelawney and one comrade. The latter is tortured to death by the Inquisitors, in the vain hope of extracting information as to the prospects of the great Armada, but Trelawney is reserved to act as a pilot on the *San Geronimo* galleon, whence he escapes to join the English fleet in the destruction of the fleet of Spain. The author is not always happy or consistent in his imitation of a sixteenth-century style, but this failing will not mar the book in the eyes of those for whom it is primarily intended.

Novels of a different class, intended rather for girl-readers, are Miss ESMÉ STUART’S *Out of Reach* and Miss WALTON’S *Black, White, and Gray*. The former is a pleasant, if not exciting, story of the trials and troubles of two orphan girls who are compelled by destiny to accept a home as “companions to a backward girl.” The lovelessness of such a life is painted in vivid colours, and one of the most pleasing characters in the book is that of the good-hearted, overtasked, and much-snubbed French governess—familiarily styled “Mumsel”—who does her best to do her duty and to gladden her new charges’ lives. The interest of the story centres about a mysterious character, a certain half-witted Miss Benita, who lives in seclusion in one wing of the house, and furnishes materials for a “ghost.” As a matter of fact, she is a rich relative, whose banking account makes her the victim of her family, and whose kindness makes her an easy dupe. To tell any more would be to spoil the reader’s interest, for it is a capital and clever book, without being ambitious or “dangerous,” and deserves to be read. *Black, White, and Gray* is intended for younger readers—a story of the country, taking its name from the respective hues of three kittens. But it is not by any means a “baby” story, and some of the scenes are very quaint and pretty; indeed, “pretty” is the epithet which best describes the book.

Three smaller volumes of one and the same series are: *The Story of Napoleon Bonaparte*, *The Story of the Life of Sir Walter Scott*, and *The Story of Howard and Oberlin*. Needless to say these are not intended to be books of deep erudition. They are simple narratives of the leading events in the lives of their several heroes, and deserve consideration amongst more sensational but less informing gift-books of the year. Especially will *The Story of Howard and Oberlin* prove interesting to many readers who no longer yearn after narratives of piracy and martial emprise. The name of Howard, the prison missionary, is familiar to many, but we fancy there are fewer who know anything of John Oberlin, the pastor of Ban de la Roche, and we recommend them to take this opportunity of making the acquaintance of that humblest, but most successful of those who have laboured for the betterment of “the people.”

MESSRS. LONGMANS.

From Messrs. Longmans comes also Mr. LANG’S *True Story Book*, wherein are collected the narratives of four-and-twenty famous deeds and doers, including such varied subjects as Leonidas the Spartan and Baron Trench, Great Cricket Matches and the Defence of Rorke’s Drift. Many of the narratives are from Mr. Lang’s own pen, while others are by Rider Haggard, Miss Alleyne, Miss May Kendall, and others. The illustrations, of which there are many, are very unequal: some are very good and some poor.

MESSRS. GRIFFITH, FARRAN, & Co.

The Flying Horse should be given to a boy with a turn for machines. Mr. H. FRITH will tell him all about the origin and growth of the locomotive, amuse him with many anecdotes, and interest him in the railway system, and give him much miscellaneous information on its development. The chapter on the Railway Mania of 1844-5 is especially good.

Esther’s Shrine is a prettily bound, prettily illustrated, handsomely printed tale for little ones, by Miss HELEN MILMAN. The tone occasionally verges on the offensively “goody-goody,” especially when the narrative deals with the unselfish boy of fiction who dreams and talks poetically and dies young; but the naughty little heroine is delightful, and the story as a whole is certain to interest children.

“ASCOTT HOPE” has long ago secured the right to be regarded as one of our boys’ best friends. His *Men of the Backwoods* is among the most thrilling and successful of his books, and we are glad to welcome a new edition of these “true stories and sketches of the Indians and the Indian fighters.”

In his *True Scenes from Australasian History*, Mr. PATCHETT MARTIN appears in a new character, and has the advantage of advancing on what is almost virgin soil. Of Dampier and Cook and Bass we all know something, though Mr. Martin manages to tell us a good deal more—and in a very pleasant way—than is common knowledge. The stories of the explorers, of the bushrangers, of the Maoris, have been little handled in a popular style before, and they are—as Mr. Martin demonstrates—eminently suited to please and instruct youthful readers.

Bluejackets is one of Mr. MANVILLE FENN’S rollicking stories of the sea. The spirit and vigour of the narrator carry us along with him, and we lay down the book with the feeling of having revived our youth for a brief spell again. We can heartily recommend this “Log” as a capital prize book: it is full of healthy, innocent fun, and there are many scenes and passages of thrilling interest.

When We Two Parted, by Mrs. DOUDNEY, is a novel which many schoolgirls have already appreciated. Such as have not yet had the opportunity of so doing would doubtless appreciate it highly as a prize in its new binding.

Among the very attractive coloured story books for the nursery sent us by the same publishers we may mention *Some Sweet Stories of Old*, *Uncle Charlie’s Book of Nursery Songs*, *Ten Tales without a Title*, and the *Old Corner Annual*, which last is a collection of tales and verses and pictures—especially pictures.

MESSRS. MACMILLAN.

We have received a beautifully bound copy of Miss MITFORD’S *Our Village*. It is profusely illustrated with much taste by Mr. Hugh Thomson, whose clever pencil seems to move in perfect sympathy with the spirit of his author. Mrs. Richmond Ritchie contributes a very readable and interesting introduction, in which, we notice in passing, she makes the remarkable statement that the ladies of our age are “singularly deficient” in complacency. “We are earnest, we are audacious, we are original, but we are not complacent.” This is news indeed.

MESSRS. JARROLD’S TOY BOOKS.

These are prettily got-up books for very small folks indeed. The title of one of them holds forth visions of an old favourite revived; but *Struwwelpeter Junior* is not the *Struwwelpeter* of our youth. Still it is on the same lines, and there is no reason why it should not attain the same immortality. *Cinderella* is yet another illustrated version of the old story, and a dainty one. The cover is especially pretty; the damsel’s head is framed in the fatal clock that struck twelve all too soon, and the little glass slipper lurks in the corner. *Our Own A B C* is what its name implies, with bright pictures to tempt infancy to the mastery thereof. We are glad to welcome *The Brave Tin Soldier*—most fascinating of tales—set off by countless gay illustrations. *Mother Hubbard* is as delightful as ever, and this time her dog sees the humour of himself very obviously. In all the pictures “he hath a merry eye.” By the way, it is a compliment to fox-terriers that artists always choose the model for this remarkable animal from their intelligent ranks. *A Child’s Dream of a Visit to London* is pretty and clever too, and will set many a country mite longing for the dissipations of the metropolis. *Cock Robin* in sepia will delight all blood-thirsty babies. *Little Red Riding Hood* will be a disappointment to such, for she is not eaten up by the wolf after all—an improvement, to our thinking. *Animals at Home* is delightful, with a good many podgy kittens and puppies, and (among other desirable beasts) one very cleverly drawn donkey. Every one of these pretty toy-books is the very thing for children, and not far above their heads, as are too many nowadays of the marvellous books that flood our nurseries at Christmas time.

An animal book of a very different kind from the same publishers is Dr. GORDON STABLES’ *Sable and White*. If any man ever loved dogs and children, it is this writer, and his volume should be one of the most popular of gift books for the little ones.

RELIGIOUS TRACT SOCIETY.

“*Icelandic Pictures, drawn with Pen and Pencil*,” by Mr. FREDERICK HOWELL, is very much to be welcomed, well-illustrated books on Iceland being few and far between. On its own merits, the book is interesting, and the drawings exceedingly so, giving the reader a vivid idea of the strange and fascinating little island. The book is one of the “Pen and Pencil Series,” and would make a handsome prize or gift. It is well printed and handsomely bound.

MR. NUTT.

A new edition of Mr. HENLEY’S *Lyra Heroica* has been sent us. This admirable selection is certain to remain a favourite with boys, containing as it does many of the most stirring shorter poems in the language, with

not one that could be wished away. The present edition is handsomely bound and printed on very good paper.

MESSRS. CASSELL.

We have here several neatly-bound editions of popular books, such as Mr. STEVENSON'S *Catrina*; *Dead Man's Rock*, by Q.; and Mr. RIDER HAGGARD'S *King Solomon's Mines*. They are nice-looking books, with clear print and a neat cover. It would be a work of supererogation to commend their contents. *The Rovings of a Restless Boy*, by Miss KATHARINE FOOT; *The Iron Pirate*, by Mr. MAX PEMBERTON; and *The Capture of the Estrella*, by Commander HARDING, are stirring tales of adventure which should prove acceptable gifts to any boy. The first of these is gaily bound, and all have exciting illustrations. *The Story of Joseph*, by the Rev. G. BAINTON, and *The Story of the Judges*, by the Rev. J. W. GEDGE, are two simply-written little books, containing the lessons and deductions drawn from the Bible narrative by their authors. We have also received the second volume of *The Story of Africa and its Explorers*, by Dr. Robert Brown. It is an exceedingly handsome book, with many spirited illustrations—an acceptable gift for anybody, young or old.

MR. ARNOLD.

Seldom have we seen a more delightful book than the volume of Hans Andersen's ever-new *Fairy Tales* now before us. The illustrations are charming, and far more nearly worthy of the text than is the case with any other edition we have come across. Solemn storks, humorous frogs, delightful babies, and dainty princesses abound for the delight of all children. Gold are the edges, and the cover is blue and gold: beautiful paper and excellent printing all are there, to make this book what it is—the prettiest and most fascinating gift-book for a child that could well be imagined.

From Mr. Arnold come also three sister volumes, entitled *My Book of Bible Stories*, *My Book of History Tales*, and *My Book of Fairy Tales*. All are daintily bound and profusely illustrated. The pictures in the fairy book are by Arthur Layard, and do ample justice to those old friends Cinderella, Beauty and the Beast, Jack the Giant Killer, &c. These are really capital children's books, and the price is small.

We have also on our table *Animal Sketches*, by Professor LLOYD MORGAN, a delightful volume of chat and anecdote concerning a variety of typical forms of animal life, from lions down to crayfish and oysters. The writer treats his subject in a homely and colloquial fashion which makes it all the more readable. There is an abundance of telling illustrations by Mr. Monkhouse Rowe, and altogether the book is not likely to be bettered this year.

MESSRS. NELSON & SONS.

Messrs. Nelson & Sons make a speciality of their Library of Historical Tales, and to this the latest addition is *The Lost Treasure of Trevlyn*, by Mr. EVERETT-GREEN, a well-tried writer of such pleasant romances. The scene of the story is laid mostly in the London of the early days of King James I., when the air was full of whispers of Jesuit intrigues and conspiracies against the "Pedant Monarch," and while the struggle between Protestantism and Papacy was still undecided. This question of religion was the stumbling block which led Cuthbert Trevlyn to run away from his father and take shelter with his uncle, one Martin Holt, woolstapler, of London Bridge. For conscience' sake, Cuthbert's father had given up his estates, and was now but a tolerated occupant of the gate-house to Trevlyn Chase, which mansion had passed to kinsmen of the new creed. Now in the old days one Sir Richard Trevlyn had been a party to the burning of a gipsy under a charge of witchcraft, and to revenge this the gipsy's tribesmen had carried off and concealed all the marvellous plate which constituted the treasure of Trevlyn; but, for the sake of the kindness shown to them by another of the house, they had sworn the somewhat unlikely oath that the treasure should not be appropriated, but kept until the time when some Trevlyn should prove himself worthy of it. Where it was hidden none knew, and it was left for Cuthbert to find out the secret. His life in London brought him into contact with Master Robert Catesby, who came very near enlisting the young man in the Gunpowder Plot; but the warning of a "wise woman," and his natural frankness and honesty, kept him out of that peril, albeit he was half killed by ruffians who suspected him of relations with the Papists. However, he escaped with a sound skin, and by the good will of the wise woman and the gipsies he was fortunate enough to trace the missing treasure, which had been secreted by a gipsy less honourable than his fellows in the bottom of an ancient pixies' well. Many were the dangers attending the discovery and securing of the treasure, but all goes well in the end. Cuthbert marries Cherry, the woolstapler's charming daughter, and the volume ends with the providential prevention of Catesby's plot and the happiness of all concerned with Trevlyn. It is a capital book, full of stir and excitement and mystery, and abounding in well-drawn pictures of the men and life of the times. Cherry Holt is a sweet lassie to read of, and she is but one amongst a goodly number of pleasant characters.

In *Doing and Daring*, Miss ELEANOR STREDDER takes us over seas to New Zealand, and opens up somewhat novel ground. Her story deals with the troubles which beset an English family in the early weeks of their going "up country" to find a farm. The trouble begins in the very first chapter and never ceases until the last is reached. There are accidents to the up-country coach, Maoris at war with each other and everyone else, and—the most original part of the story—a terrific

volcanic eruption, which desolates miles of the low-lying country, and buries the homesteads under showers of mud. Then, to make matters worse, one of the white men turns out to be a thief, who appropriates whatever he can lay hands on, including the treasures of a Maori chief. The chief believes the culprit to be Edwin Lee, the hero of the book; but the chief's son Whero stands loyally by his young white friend, and the two at last recover the missing properties after plenty of exciting adventures by flood and field. If the book has any fault at all, it is that persons and their adventures crowd almost too thickly upon the reader; but this is a fault which no well-minded boy will pause to consider.

The Battle of the Rafts is the story which gives its name to a collection of nine tales by Mr. H. H. BOYESEN. The scene of all is laid in Norway, as the author's name might lead us to expect, and very pleasant and amusing some of them are. The first tale tells how the two factions of a Norwegian school waged stern war with each other by fell and flood, with stones and bows and arrows, and other such weapons. Though one would hope that the author exaggerates a little when he tells us quite as a matter of course that one of the warriors had his eye put out. *Lady Clare* is an unusual story about horses, and *The Bear that had a Bank Account* is another of quite original stamp, dealing with the discomfiture and death of a notable bruin, upon whose life had been set a price. *The Wonder Child* is a pathetic and very charming little tale, dealing with the Norse superstition as to the healing powers of "the seventh child of a seventh child." The whole collection is very well worth reading, and forms a really excellent gift book for boys whose tastes may be satisfied with something less strong than pirates and battles.

A very small, but very interesting and well-written volume is *Mistress Elizabeth Speneer*, by Mrs. ELIZABETH TRANCE. Mistress Spencer was the only daughter of "Rich" Sir John Spencer, of Crosby House, in the time of Good Queen Bess. She was a wilful beauty, who did not care for one John Henningham, to whom her father wished to wed her, but favoured young Lord Compton. The plots of John Henningham—who was a very sorry scamp indeed, not to say a pirate—to carry off Sir John as well as his daughter, and their providential frustration, make a really complicated story, although the tiny book reaches only to some hundred and thirty small pages. The authoress loves old English life, and she makes her characters really live in all the pomp and quaintness of the days when Queen Bess and her courtiers made grand processions through the narrow streets of Old London to witness masques in Crosby Hall.

Messrs. Nelson's publications include also two books all about animals. The first is a very old friend, and a very nice friend too; it is MARY HOWITT'S *Sketches of Natural History*, and it is one of the best gift-books of its sort. The dainty illustrations by Giacomelli are not even now so well known as they should be, and we heartily recommend this new edition of an old favourite. The second volume is *Favourite Stories about Animals*, a collection of true stories intended to show how marvellously the powers of reasoning are developed in certain animals. Many of the tales are, as the title of the book suggests, old acquaintances, but there is a goodly number which will be new to most readers even of older years. Certainly it is hard to read them and still maintain that animals "cannot think." The various anecdotes are told in the simplest language, such as very little readers or listeners can comprehend, and the book is furnished with a number of illustrations, many of them after Harrison Weir.

MESSRS. BLACKIE & SON.

A story which bears the name of Mr. MANVILLE FENN scarcely needs any further recommendation; and indeed *Yussuf the Guide* is a capital tale, as amusing as it is exciting. Lawrence, the hero, is an orphan, whose guardians, to save him from threatened consumption, agree to take him abroad. The two guardians are Professor Preston and Mr. Burne, a lawyer. Neither of the two has had any "fun" for thirty years or so, and their boyish enjoyment of even the most trying situations in which they are placed is capitally depicted. The Professor in particular renews his youth, and makes sad fun of his more portly colleague, whose principal characteristic is the professional vigour wherewith he blows his nose. The Professor desires to explore the ruined cities of Asia Minor, and thither they go accordingly. They buy a small armoury of defensive weapons at Smyrna, and Mr. Burne nearly kills himself and other people in his first attempts at handling a gun, during which he sits down with such violence that his aching spine remains with him throughout the story. They are nearly robbed and nearly drowned by Greek sailors, but are rescued by a Turk, who forthwith attaches himself to their service. This is Yussuf. Under his guidance they penetrate into the uplands of Asia Minor, kill snakes, lose their horses, encounter brigands, are taken prisoners, and are secreted for weeks in one of the ruined hill-towns of Anatolia. Ultimately they find a secret stair which communicates with the outer world, and after many days they make their way back to the coast. As for Lawrence, he has become another being, sound as a bell, and the whole party return home, after having experienced a "real good," if somewhat rough, time. The characters of the Professor and the old lawyer are excellently drawn, and their constant pretences at quarrelling keep the reader amused from first to last. It is a book which boys will enjoy, and "children of an older growth" also.

An enthralling story is Mr. ROBERT LEIGHTON'S *The Wreck of the Golden Fleecce*. The *Golden Fleecce* is a barque which is wrecked on the Suffolk coast by Lowestoft in the latter end of last century. Amongst her passengers are two refugees from the French Revolution, a marquis

and his daughter, who settle where fate has landed them in East Anglia, as did so many of their kinsmen in the days of the Terror. The Marquis turns himself to experimenting in clay, and is amongst the founders of the once famous Lowestoft potteries. Unluckily he is the possessor of a valuable jewel, a souvenir of his dead king; and this brooch is the cause of his undoing, for he is waylaid and murdered by one Jim Garrod, a vagabond smacksman and ne'er-do-weel. The hero of the tale is Leonard Golding, who makes acquaintance with Jim Garrod when taking his first voyage in a Lowestoft herring-boat. It is he who first discovers the murder of the Marquis, and little by little brings the case home to Jim's door. Jim is transported for the robbery of the brooch, but the murdered man's body cannot be found; and to learn what has become of it the hero starts a voyage in pursuit of the convict ship. Then follow incidents thick and fast; there is an encounter with pirates; the Englishmen escape that peril only to find their ship burnt at sea, and to drift about until they come across the convict ship, where all is confusion, plague, and mutiny. There Jim Garrod is killed, still guarding his secret, which is cleared up, however, just as the volume closes with the hero in a fair way to marry the Marquis's daughter. A book of adventures in plenty, and well told to boot, although Master Leonard might seem to have a somewhat old head on his young shoulders.

In *A True Cornish Maid*, Mr. NORWAY takes us back to the old smuggling days of the last century, and tells us much of the ways of coast-guards and press-gangs, and of the means adopted to outwit one or other. Things were wild in those times, and the hero of this story manages to kill one of the King's lieutenants. How his sister stood by him and abetted his escape by exchanging clothes with him, must be read by such as are fond of the Cornish lassies with their rough lives and rough speech and stout hearts.

Raff's Ranche, from the pen of Mr. F. HOLMES, is a story of desperate doings amongst the cowboys and Indians of the Wild West. There is a great deal of character in the book—American character, with its peculiar and amusing dialect—and many encounters with wild beasts and wilder men. The amount of shooting which is compressed into this small volume is enough to rejoice the hearts of a whole school of ordinary boys.

A new edition of *Gulliver's Travels*, furnished with Mr. Gordon Browne's many humorous illustrations, should prove an acceptable book.

The Clever Miss Follett is a capital novel by Miss J. DENNY, in which are set forth the social grievances of those whose inheritance is birth without wealth, the further trials which follow upon their coming into a colossal fortune, and their yet more unpleasant experiences when their inheritance is taken from them by a prior claimant. The characters of Dora Follett, the clever one of her family, and her several sisters, are all sympathetically drawn, and the respective merits and demerits of several forms of social ambition, in the persons of her sisters, are cleverly contrasted without putting "the moral of it" too prominently before the reader. The book is very readable and natural, and will form a handsome gift-book for girls whose years are drawing near to that point "where brook and river meet."

Bright little volumes for younger girls are *Queen of the Daffodils*, by Miss LESLIE LAING, and *A Golden Age*, by Miss THORN. The former in particular is a delightful little story, of which the scene is laid, in great part, in a girls' high school, and the heroine, Lady Di, is a very lovable little personage. The illustrations to these volumes are capitally drawn and executed, as usual with these most enterprising publishers of stories for boys and girls.

Finally, Miss JANE DEAKIN contributes a tiny little volume entitled *A Little English Gentleman*, whereof the scene is laid in the days of the Commonwealth. It tells the story of a Cavalier, a fugitive from the battle of Worcester, who owed his life to the heroism of the child whom not even the "Lord General" could frighten into revealing the secret of his father's hiding-place. It is a brief story, and as pretty as it is brief, while its price—only ninepence—puts it, with many others equally pleasing, within reach of almost everybody.

Hints and Helps for Young Men, and its companion volume, *Hints and Helps for Young Women*, are published by Messrs. Hodder & Stoughton. The author, Mr. W. THAYER, is an American, already well known as a writer. These latest books are very sensible little compilations, touching upon a great number of matters, their message being delivered mostly under cover of anecdotes of which the transatlantic flavour does not impair the moral. They should prove acceptable to young people who have got beyond the stage which finds pleasure only in the sensational in literature.

Pictures from Greek Life and Story (Hutchinson & Co.) is a neat and readable volume from the pen of Professor CHURCH. The book contains four and twenty cameos from Herodotus, Thucydides, and others of the old classics, related in a simple fashion, and provided with a few good illustrations. It makes a handsome book for either boys or girls—there are some suggestions in its pages which older students may find novel.

Last, but not by any means least amongst gift-books, come two imposing volumes, the *Leisure Hour* and the *Sunday at Home*. These two magazines are too well known and appreciated to need advertisement, but we are glad to call attention to two books so handsomely bound, so full of every kind of interest, and withal so very reasonable in price.

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EVENING MEETING, NOVEMBER 15TH, 1893.

The Chair having been taken by H. COURTHOPE BOWEN, Esq., M.A., J. J. FINDLAY, Esq., M.A., read the following paper on

THE TRAINING OF TEACHERS IN SECONDARY SCHOOLS.

§ 1. I hope, at the close of this lecture, to arrive at a series of propositions or theses which will describe the conditions under which, in my opinion, training, i.e. the technical (or professional) education of the teacher, must be conducted, if it is to be efficient. In order to reach these propositions, let us begin at the beginning and make clear as to what we mean by training.

I think we shall all agree that training consists in imparting to students those qualities and attainments which a good teacher, our ideal of a teacher, possesses; we can sketch the work to be done in training by sketching the good teacher, as we picture him to ourselves, and then say, *such* ought to be produced by training. These attainments and qualities, which at present are left to chance, and are only seldom found, are to become, as far as possible, the common property of the teaching profession, by means of an organized system of technical education.

If it be replied that our ideal, the good teacher, is and can only be produced by experience, I meet the objection with a denial, as one of those half-truths which are more dangerous than falsehood. It is with teaching, as with every other calling in life—we may chance, if our environment is fortunate, to learn to be skilful without formal technical guidance; but if we have such guidance at the outset, we shall be able to take double advantage of our later experiences as well. I do not, however, wish to-night to argue with the unbelievers; I take it that we are convinced that training is necessary; we are met to discuss ways and means.

§ 2. What, then, do we find in an efficient teacher? I do not mean in a teacher who merely imparts knowledge skilfully, but a teacher after the style of our best English tradition, who trains his pupils to think wisely, to feel nobly, and to act truly and righteously.

First, the efficient teacher will possess, in a greater or less degree, those attainments which he desires to reproduce in his pupils. The teacher of arithmetic must know it—even the teacher of French ought to know French! And he who trains the character of his boys must be a man of character.

Now, some will be disposed to dispute the right of these considerations to a place in our discussion; they will say that the teacher ought to have done with scholarly studies before he comes to be trained, and that the trainers cannot undertake responsibility for any lack of scholarship or culture on the part of their students. Certainly the responsibility which any particular trainer of teachers undertakes may fairly exclude this part of training, and a division of labour, which assigns the care of scholarship to certain persons, and the care of training in the narrower sense, to others, may be approved; but, surely, when we come to consider *ab initio* the whole problem of producing efficient teachers, we cannot exclude either scholarship, culture, or character. I appeal confidently to headmasters and headmistresses who have to seek for assistants; they will agree that these considerations are of weight, and that teachers who come to them professing to be trained to teach efficiently, ought to be qualified in scholarship, culture, and character, as well as in technical skill.

To clear the dispute, we may note when the training of the teacher commences. It commences, evidently, at the moment when our future teacher, like our future doctor or future solicitor, closes his period of general liberal education. On the threshold of every calling in life which has been properly organized, there stands a preliminary certificate to be produced as evidence of this liberal education; everything that comes after this gateway must be reckoned to the technical or professional education of the student, although much of these later studies are also of a liberal, as well as of a technical nature. A great deal of the attainment which the painter or the lawyer requires to fit him for professional work will also extend his culture—but none the less it is, to him, a part of his technical education; and the same is the case with the teacher. You will observe that I do not dogmatize as to the time of life when this gateway should be entered; some commence school-work, as some commence solicitor's work, at seventeen or eighteen; others delay until twenty-two, or even later. All I desire to make clear is that our consideration of what is to be done, in order to produce a good teacher, cannot neglect this outfit as a professional qualification necessary to the teacher as a part of his work, and not necessary to the merchant or solicitor.

When our Educational Council, that is to be, stamps our teachers, that are to be, with its *imprimatur*, I venture to prophesy that it will not only certify them as being able to teach children, but also as being able to teach certain defined branches of knowledge and skill. Surely, if a teacher, professing to be trained, offers to teach geography, it is a part of his qualification that he know geography, and, in the long run, those who organize training will have to see to it that he does know it. And, although certificates can never guarantee that the nobler and finer qualities of a teacher are being produced by his training, I certainly believe that training can be so organized as to favour the production of these qualities, or so as to hinder their production.

Having said so much by way of justifying the inclusion of scholarship, and of culture in the broadest sense, into our view of training, I now dismiss them from consideration, partly because they deserve separate treatment beyond the time at our disposal to-night, and partly because, as far as scholarship is concerned, it is, on the whole, better cared for than any other part of training. I think we shall agree that in good schools most of the branches are taught by those who know what they are teaching, modern languages and literature being perhaps excepted from this encomium.

§ 3. Secondly, our ideal teacher has *knowledge*:

(a) of the nature and the aims of education—of the responsibilities that are imposed upon him, as a professional man, by parents and by society;

(b) of the nature of the child—as an individual and as a member of the corporate society of his school;

(c) of the principles of education—that is, of the modes in which the means at the disposal of the school can be brought to bear upon the nature of the child (b) so as to fulfil the aims of education (a);

And thirdly, our ideal teacher has *skill*:

(d) in handling the child's mind and the collective mind of a company of children;

(e) in handling the branches of instruction so as to produce by means of these the desired educational effect;

(f) in the arts of expression, by means of which he communicates ideas—of speech, expression in the abstract, of drawing, expression in the concrete.

This last I merely mention, and omit from further consideration for want of time. He who cannot draw, cannot teach young children; he who cannot speak, will fail either to teach or to govern children of any age.

Such, I take it, are the qualifications which that *rara avis*, the good teacher, has acquired during long years of arduous labour and solitary effort. We believe in training because we believe that these same qualities, now only found here and there, and left to chance growth, can, by an organized system of technical education, be produced in a far greater number, and so become, to a greater or less degree, the common property of the profession in the future—not, indeed, without labour and effort, but with more certainty of success.

§ 4. If that be our purpose, it will be at once observed that we must add something to our list of attainments. For training, like all true technical instruction, bases the workman's knowledge and the workman's skill upon science, *i.e.*, upon *formal* knowledge and *formal* observation. The study of the nature and

the aim of education seeks its foundation in ethics; our thought upon child nature leads us to psychology. And to the skill (*d* and *e*) which all teachers, trained or untrained, must gain from experience, we now add the habit of observation, of noting and recording results, and of working by means of these results; this is the grand instrument of modern scientific method, and it can be used by the teacher as usefully as by the doctor. The trained teacher, so far as the ascertained knowledge of mental life and of child-life enables him, will replace empiric method by scientific method, exactly as our physicians are doing; and his scientific training will strengthen his hand, even in those many obscure regions where experience is as yet our sole guide.

This is, indeed, what we mean by the technical education of the teacher, and the case for teachers' training rests upon the assumption that there now exists a sufficient body of systematic knowledge and systematic experience to warrant us in putting them together into the applied science which we call the theory and practice of education, or better, in one word, pedagogy. It is open to any teacher to deny this last statement; after examining into our theories of education, he *may* declare that they are pernicious or useless; but no one acquainted with the modern argument on behalf of technical education will dispute that—if we *do* possess sufficient acquaintance with applied ethics of the child, and applied psychology of the child, to warrant us in constructing a science of pedagogy—the case for teachers' training is proved.

For our present purpose, I assume, what I myself believe, that our pedagogy is sufficiently formulated to justify us in using it as a groundwork for teachers' technical education; but I will go further, and point out that the very imperfections of our pedagogy, as it at present stands, strengthen its claim for support. It is a new study, which needs special effort in research if it is to fulfil its purpose. The promoters of technical education know very well that for all our modern pursuits a double task has to be performed—not only have the young to be technically trained, but their seniors, their teachers, have to find opportunity for study, in revising the sciences upon which the technical education is based. If these sciences are only imperfectly understood, that is not a reason for despising the empirical methods which the technical instructors of the day, for lack of deeper knowledge, have to employ; it simply indicates the need for giving to these instructors more opportunity for research. To this point I shall recur later.

While desiring to point out that training, as a technical pursuit, must seek its foundations in ethics and psychology, I do not wish to be understood as implying that the student teacher needs to treat these last in a comprehensive fashion, as if he were a student of philosophy. No doubt he will be assisted in his work if he has had the opportunity of a full course in philosophy, but I agree with Professor Laurie* that this is by no means essential. To me the essence of the matter seems to be that the student should learn how to think and how to arrange his thoughts upon these difficult topics; he must know where he is when he has to judge upon questions of moral conduct and of mental development, of the child's thoughts and the child's heart. I was myself driven to psychology, and then later on driven to ethics, because I wanted their help to enable me to solve the practical difficulties that beset my school-work, and I believe that, offered to students from that standpoint, they will accept philosophy and make use of it. And here let me add a plea for giving to ethics and to the aim of education a larger space in our English pedagogy than it has hitherto claimed. I am convinced that no scheme of secondary training and no theory of education will be satisfactory to the experienced teachers of our good English schools which neglects ethics—and this ethics must deal with society as well as with the individual, for the school is not a collection of separate units, but a corporate society. At this moment especially, when great changes in national education seem to be imminent, we need to search well the ground upon which we stand. Any training for young teachers which omits to place their feet upon the rock of high purpose as to the nature of their calling, of their responsibility to the individual child and to society, fails in the very root of the matter.

§ 5. Let us now return to the other qualities, of knowledge and skill, described in § 3. Under present conditions these qualities are obtained by a teacher, if at all, by experience—that is, by residence and employment in a good school. The question suggests itself whether, after all, such residence and employment are

* Preface to "Institutes of Education" (Edinburgh, 1892).

not essential to their acquirement, and, therefore, essential to the training of the teacher; it is obvious that the strictly technical investigation of educational theory described just now (§ 4) is out of place in the school, but the practical men keep asking us whether the knowledge and skill (§ 3) which go to make up an efficient teacher, cannot be acquired in the school itself.

Let us examine these qualities one by one in order to answer this question—first, *knowledge of the aim of education*. Now I am sure we shall all admit that a young teacher *does* need to be in the actual life of some school or other in order to understand the purpose of school-life. Academic lectures and inspiring books will help him, but, after all, he must be actually at work in a school where the ethical ideas are put into practice, if he himself is to acquire them. It is helpful to us, for example, to read the “Memory of Edward Thring,” but such reading, even if it were set as a special subject by an examining board, might influence our school-work very slightly; I question, however, whether any of us, if we had been trained at Uppingham, could have resisted the moral influence of its headmaster. Such a stimulus is far more healthy, far more likely to bear fruit, than a mere academic investigation of educational theory. I venture to say, sir, that the problem here before us requires great care in the handling. On the one hand we have the danger that young teachers shall be trained philosophically, apart from the practical experience of school-life, and be led to dream dreams, to dwell upon aims and hopes for education and for their own life’s work which are out of harmony with the realities of things. They may seek after an educational ideal, which is not, indeed, too high—for our ideal cannot be set too high—but which is wide of the mark, and they thus become unfit for service. I speak, sir, here from experience; I have teachers in my mind to whom this description applies, whose studies of social and ethical problems have led them away from the first principles of our school gospel, which warns us that, unless we stoop down to the little child and learn his ways, we cannot educate him. On the other hand, there is the danger of letting go of our ethical ideal altogether, and of supposing that training consists merely in the pursuit of a certificate by the help of books and lectures upon theory; and of supposing that education is the same as instruction. A teacher, trained or untrained, who sets out on his professional career without a clear conception of the moral issues which it involves, is sailing without chart or compass.

I confess that I see no way to avoid one of these two pitfalls, unless the student, during his training, is intimately associated with the life of a good school; whether it be a practising school or a high school or a public school is indifferent for our present purpose; what the student needs is to come into intimate relation with the daily life of those who conduct the school, and so to witness the play of cause and effect, the ethical ideal working out into its products in the conduct and character of boys and girls.

I do not touch here upon religious training; but I may, in passing, observe that there is only one road by which our teachers, primary or secondary, can learn how to train the heart and the will of a child towards God and towards righteousness—by studying the life and ways of children, and by working with wise and experienced teachers, who know how to train up the child in the way it should go.

This, then, the training course must offer; but, since it is a training course, and not merely a school, it will *add* to it the formal contemplation of the ethical principles which underlie the whole.

§ 6. *Knowledge of Child-Nature*.—At the first glance it might be supposed that here, too, the school is the best sphere for achieving our purpose. Many will say that the best way for a man to learn boy-nature is to be plunged into an active school, and brought into hourly contact with young life. But those who say this overlook the conditions under which an ordinary school is conducted. Our schools do not exist in order to help young teachers to learn what boys are like, and the conditions are really not favourable for acquiring this knowledge; for this knowledge must be gained by studying the *individual*, by leisurely intercourse with a single child. Let us recall the conditions under which we ourselves commenced school-work, in a large school, with perhaps a hundred faces coming before us day by day, with the varied occupations of preparing lessons, of taking “duty,” of adding up marks, and the like. Under such conditions it was very hard for us to attend to the primary duty of all, that of learning to understand the nature of those whom we had

to teach. Perhaps the case of some of us was helped by our having private tuition, or by our having a large circle of young acquaintances in our homes, but the school itself rather hindered us than helped us in becoming efficient in this particular. Surely, the first essential for efficiency is a knowledge of the child, and the knowledge must start from the individual. It was so with Locke, with Arnold, with Herbart, and with most of our other great teachers.

I desire to lay all the emphasis I can upon this matter, for indeed it contains the kernel of all I have to say. There are, of course, many other things that a schoolmaster has to do, for which a knowledge of child-nature is *not* essential: he may lecture and tell stories, he may play cricket, or keep the school accounts, or draw out the time-table, or correct examination papers: all these are useful occupations, but they are by the way; the man who does not know the child’s mind, who does not learn how to interpret a boy’s thought from a boy’s action, is no good as a teacher. It is even, in a sense, more important than a knowledge of the aim of education; for a man with a very low aim may, at any rate, teach something useful to his pupils, if he knows how to teach; but the very noblest ideal, coupled with the very highest scholarship, will be useless if you do not know how to get at children’s minds.

I venture to assert that this is the centre of the whole business of training, and that if a training course fails here, it fails absolutely. I do not mean that in a short course of a year or two a student-teacher can fully qualify himself in this respect—far from it! this qualification cannot be “got up” within a given time—but I do assert that the main object of a training course should be to direct students to know, to examine, to observe the life and habits of school children. This can only be properly done, so far as my experience goes, by the establishment of a practising school closely associated with the training course.

Having fixed this position as the thing needful, I am prepared to give full weight to the argument that teaching is class-teaching, and not, as a rule, private teaching. I agree that the efficient teacher must not only know the individual child, but must know the collection of children as gathered for instruction.

I will even go further than this, and am prepared to admit the force of the argument contained in the recent reform in Prussia, by which every master (*Gymnasiallehrer*) is compelled to spend a year in training in a *Gymnasium* itself,* i.e., in the special type of school in which he will hereafter teach. Training cannot be said to have ended until the student has left his training course behind him, and has spent a year or more in the life of a good school of the type in which he intends to pass his life.

At the same time, it is easy to exaggerate these differences; boys are boys everywhere, and school is school; a teacher who has not run too long into one narrow groove can quickly adapt himself to a new environment, if he has once learnt the habit of studying the nature of children. This is the one essential; it *can* be gained by the teacher without training, but with great loss of time, and the untrained teacher, plunged straight into full school-work, may never gain it at all; training, unless it wholly misses its aim, will set the student on to the road of acquiring it, by bringing him into constant sympathetic contact with individual children, and by directing him in his efforts to observe and understand them.

§ 7. *Knowledge of the principles of education*.—Can the ordinary school supply the young teacher with adequate knowledge here? Certainly every school *has*, more or less, a set of principles, founded on the theories of the headmaster and his colleagues—and the most inconsistent theories frequently enough are those maintained by the conservatives who deny the value of theory! But, once more, it is not the business of a school to train its staff in the theory of education, and those of us who commenced our life as teachers in an ordinary secondary school will admit that the principles of education which we picked up, in the odd moments of conversation with our chief or with senior colleagues, were meagre indeed. It is true that headmasters of small and struggling schools often do their best to help the beginners in this way but those who give the greatest help will be the first to admit that anything that they can do is inadequate. If they really trained their staff, they would be neglecting the claims of parents and of boys.

* I may be permitted to refer to the *Journal of Education*, December, 1892, January and February, 1893, where I have given a full account of this change.

But, we must ask, as before, Can a knowledge of educational theory be properly acquired *apart* from experience, from the real life of a school? Can the young student, as yet very inexperienced in the ways and life of children, be safely encouraged to work at theory? He can, as we know, acquire the contents of books upon education, and of lectures, and can reproduce these for certificate examinations, but the process is artificial, and, I venture to think, dangerous. If it is considered imprudent for persons without a medical training to prescribe for themselves on the authority of medical text-books which they may have perused, it is surely as imprudent to regard pedagogic text-books as a sufficient guide to inexperienced teachers; we all know something of the human body, but those who have given most attention to the nature of the human mind are the most modest in claiming to understand its action. It may be said that the student ought to study theory during his training course, and afterwards test his results by practice, when he has obtained his certificates and has entered on school-life. This I cannot believe to be a sound course; it is not followed in any other department of technical education, and it cannot be defended as a rational mode of promoting an understanding of the difficult problems which underlie our pedagogy. The error is precisely the same as that made in the old method of science teaching; we learnt our botany from books, and were advised to collect and examine the flowers afterwards if we were so disposed; such a method of acquiring educational theory does violence to the foundation principles of education itself.

I take it, sir, that our College of Preceptors fully recognises this distinction between lectures, such as the valuable series given in this room year by year, and a complete training course. I gather that the majority of those who attend these lectures are teachers actually engaged in work which enables them to realize what they hear, by means of their daily pursuits and environment. If the case were otherwise, if, for example, these same lectures were attended by young undergraduates, who later on might become teachers, I hold that they would be worse than useless. I do not wish, sir, to be polemic, or to criticize opinions or methods which prevail elsewhere, but I know that in certain quarters it is supposed that training can be accomplished by means of lectures and text-books; and I know, on the other hand, that the distrust which the practical people, the headmasters and headmistresses, feel on the whole question, arises from their conviction that lectures and text-books are insufficient. Theory and practice must go hand in hand, not only in the words of a lecture, but in the daily experience of the student. The doctrines of the lecture-room must be then and there put into practice, and the faults which the student commits in his practice must be corrected by reference to the theory. In no other way can a student be trained to make practical use of the principles of education which his lecturers base upon ethics and psychology. We must be actually in contact with boys and girls—*our own pupils*, growing up month by month before our eyes—if we are to learn the teacher's business, if we are to apply doctrine to life.

This is true of every art; true for the chemist, true for the politician—their science and their theory are simply a snare, if they cultivate them apart from the laboratory of practical work. Let me offer an example: How easy it is to explain in a lecture that ideas come through the senses, that the child's study of the abstract and the formal must be based upon the concrete and the real; how delightful to contemplate the life and labours of Pestalozzi from this standpoint. The student can thereupon compose an enthusiastic essay which will delight the heart of his examiner; but watch him *at work*—and you may find him utterly wanting as he stands before children, charged to follow the rule about which he has written so glibly! If it were a matter of religion, we should call him a hypocrite, for he does not practise his creed; the conservative teacher calls him a theorist, and laughs our pedagogy to scorn.

§ 8. Here I must add a note on a department of training which is often ignored, but which surely plays an important part in the teacher's equipment. It is often supposed that the student has nothing more to learn than to be coached in what are called "methods"—he has to know how to teach arithmetic, or how to teach Latin, or how to correct note-books. But, surely, these are only secondary questions. Has he no concern with the primary question of purpose; ought he not to know *why* these branches are taught? Is he not to be trained to think upon those deep problems upon which we so sorely need more light—the problems of the curriculum? Undoubtedly, for if his

theory of education is to satisfy his mind, it must be a harmonious whole, starting from the root inquiry as to the purpose of school-life, and passing through the whole gamut of educational problems, of organization and management, of external and internal government, of the curriculum, of discipline, down to the details of ventilation and blackboards.

Now, I venture to submit that in all these matters we need a practising school, if our study of theory is to produce its effect on the minds and beliefs of our students. What is the use of a lecturer producing a new ideal curriculum, which he supposes will be an improvement on the old-fashioned time-table which he decries, unless his proposals can be put to the test? Nothing can be more harmful for a student than to be a witness of visionary castle-building, and to be habituated to the criticism of systems without observing any attempts to replace them. So long as our theories of education remain mere theories they will not produce their effect. I spoke a few moments ago of the need for research in pedagogy, and I then had particularly in my mind the pressing need for practising schools, in which we can experiment and put our proposals to the test of experience. I venture to say that, if we possessed such schools, we could anticipate the progress of reform by many years. Consider the immense number of projects for the improvement of instruction which are thrust upon us year by year; reformed handwriting, reformed language teaching, reformed religious instruction, reformed school-desks, reforms good, bad, and indifferent are all pressing upon us, and not one of these has the opportunity of a proper scientific test by a careful and competent authority. For the difficulty lies not only in our want of time for this purpose, but our want of material, of a school class in which to put the matter to the proof; we may test a new soap in a few minutes, and a new medicine in a few days, but it takes a few years to test a new method of instruction. Unquestionably, if research is one of the duties of those who profess the theory of education, they need a practising school of their own, as much as a physician needs his hospital. Without this provision, we may spin our theories for ever, but neither the profession, as a whole, nor our own students will derive much benefit.

§ 9. Finally, our experienced and efficient teacher has *skill* (*d, e, f*). Now skill in teaching, like skill in any other art, comes by imitation, by practice, and by both guided by the rules and principles obtained from the knowledge (*a, b, and c*) which we have gained, and all of these directed by the counsel of those who train the student.

It is pretty generally admitted in this country that primary instruction is, on the average, better imparted than secondary instruction; and the reason surely lies in the fact that the primary teacher has so many opportunities of witnessing good teaching, and of being corrected and advised in his own youthful efforts. This skill is not the highest kind of skill, and our best primary teachers are the foremost in lamenting their lack of a better theoretical basis for their work, but it is efficient; and this acquirement of skill, that is, of ability actually to produce the educational results, is an essential part of training.

I recur to my question, Can the ordinary school impart this skill? I believe it could do a great deal more if it would try, and I am glad to know that some schools are making the attempt. I had the pleasure the other day of visiting a school where a young student enjoys a scholarship for intending teachers, obtained from this College, and where, in consequence, the headmaster and some of his staff join in criticism lessons; I have no doubt that a few other schools here and there do the same. But what are they among so many? What percentage of schoolmasters (I say nothing of mistresses) have ever permitted a colleague to witness or to comment upon the mystery which is daily enacted within the closed doors of their sanctuary? How many of our English teachers compare notes of lessons? How many, indeed, write them at all? You agree with me, as I perceive, that the very suggestion of the idea is absurd.

No! the secondary school, as now organized, has no time for the painstaking labour involved in guiding a young teacher through the difficult path of his first experience. Give him all the help you may, he will still be left to swim alone, for, once more, it is not the business of the school to train teachers, and the needs of a young teacher cannot take a prominent place in the arrangement of our ordinary schools. How, then, is skill to be obtained? My answer again is: The practising school; and the practising school for a secondary teacher ought to take a much more prominent place in his training course than the practising school of a primary training college needs to take, simply be-

cause the primary teacher has been for years engaged in teaching practice before coming to college, while the secondary student has had no such experience. Hence, the practice required by the secondary student cannot be covered by the provision of a few isolated criticism lessons, hurriedly despatched in the midst of more important studies, but must be itself a most important part of his continuous employment during the whole course of his training. He may not teach for many hours per week, but he should certainly teach continuously, taking one branch of instruction with one class during the whole of a term, under the guidance of an experienced teacher; he should witness the work of his guide and of other teachers, and should thus be taught to make theory and practice go hand in hand.

The time is, indeed, short enough for the large ground that has to be covered; let me state once more that in skill as in knowledge, the training course can only give us the start; it is only time, and many years of time, spent in careful thought and practice, that can make us thoroughly efficient; the untrained teacher is to be deplored, but most of all shall we pity the young fledgling, proud of his little bit of training, who thinks that he knows all about it! Those of us who have been at the most pains to improve the quality of our own work will probably be the first to admit that we are unprofitable servants. The best skilled oral teaching is indeed a fine art, in which few of us can hope to attain the highest rank.

You will observe the distinction which I have made between the two sorts of skill, the one taking its starting point from the child's mind, the other from the branch of instruction. I wished, by drawing the distinction, to emphasize the importance of the first as compared with the second; the purpose of a training course is not, and cannot be, to produce instructors ready primed with methods and tips for teaching this branch and that branch, still less can it be to produce crammers fitted to earn grants; its aim should be to produce young teachers who have been acquiring the art of handling a school class—the particular branch of study being a subordinate matter. I refer to this because there is and will be a great practical difficulty in covering the whole ground of a full course of training; if anything therefore has to be omitted, I hold that this last, which the Germans call *Spezielle Didaktik*, may be left to the last. Let the student get well started on right principles of class instruction, on the right habits of thought and practice, and he may safely be left to develop the details of his work when thrown upon his own resources.

§ 10. This completes our analysis of the elements that go to the making up of a good teacher. I have occupied much of your time, and yet you will perceive that I have left much unsaid. I have said nothing of knowledge of the laws of health, and of the physical life, so important for school hygiene and for physical education; nothing of skill in the arts of expression, expression in the abstract by means of speech, in the concrete by means of drawing. I have omitted them not because I desire to depreciate them, but because I wish to concentrate our attention upon what I consider to be the few most important topics of our inquiry.

One other branch of knowledge I have omitted, because I do wish to depreciate its value as a means of training. I allude to what is called the history of education. I believe that, as a department of history, it can be studied with advantage by teachers of experience, but I have seen no evidence to satisfy me that it can be made of use as a serious pursuit in a training course. We all agree that the lives of our great exemplars—Comenius, Herbart, Arnold—are full of inspiration and stimulus, but I have yet to be convinced of their value for the purpose for which they are employed by young students. I venture to hazard the opinion that the history of education has assumed its present importance in our schemes of training because it is so convenient a subject to examine upon; I venture to go further, and to assert that no great advantage can be gained from reading about these great men, unless our studies go much deeper than they have hitherto gone, so as to embrace the whole history of the culture and the civilization in which these teachers played their part; such a study may form an appropriate investigation for our University scholars in history; but it lies outside the reach of the mass of students-in-training.

§ 11. The main conclusion to which I have been directing your thoughts is concerned with the provision of a practising school. I must add a few words further on this point, for it is felt by many to constitute the main difficulty in the organization of higher training.

So far as I know there are three ways in which this lack is supplied. First, and best, a small school is established and directed by those who impart the training; it is in no sense intended as a model school, but as a small working school, which is only differentiated from ordinary schools in having many students who share in the teaching and in the whole life of the place, in association with the regular staff. These last have a double duty: to administer the school classes, and to direct the student; for the school exists *primarily* for the sake of the students. Their task, indeed, is similar to that of a house-surgeon in a hospital, or a demonstrator in a laboratory.

Secondly, a school of reputation establishes a training course as a side branch of its work. We have an example of this in many of the kindergartens attached to high schools, and more recently Prussia has adopted this plan for the training of all its secondary schoolmasters (*Gymnasialseminarien*).^{*} I have already pointed out the disadvantages from which this plan may suffer, in that the main object of the headmaster and his staff is not to care for student-teachers, but to conduct the school; on the other hand, the plan has great advantages, if such a training department be properly organized and staffed. The one great advantage is that the student lives and moves in an active school, conducted under the ordinary conditions:—an advantage which can scarcely be exaggerated. At the same time, the student must seek elsewhere for that which such a school cannot give him, for his lectures on theory; and this division of his training must be prejudicial, for the theory and practice are not likely to be treated from the same standpoint. Nevertheless, in view of the difficulties which seem to attach to the establishment of practising schools proper, I believe that secondary training will be commenced by imitating the Prussian example, that is, by establishing training departments in connexion with some of our large schools. This can the more readily be arranged in London and our great towns because facilities already exist for supplying lectures on philosophy and theory in our University colleges.

Thirdly, we have examples of the establishment of a training college or course, with its staff of lecturers, who seek classes in one or more schools of the neighbourhood in which their students can give lessons. Several primary training colleges adopt this arrangement. Such a plan is, of course, better than nothing, and I have no right to say that it cannot achieve good results. But, if the arguments I have used to-night be allowed their full force, it will be admitted that, if lecturers and students merely enter into an outside school or visit a variety of such schools in order to give lessons, they cannot gain that intimate acquaintance with child-life and with school-life which I regard as the central business of training. For primary teachers, attending a day training college, the plan may be satisfactory, since these have previously been in contact with children, but for secondary students, whose previous experiences have been only academic, I foresee serious dangers.

I should have been glad, if our time were unlimited, to have entered more fully into this part of my theme, but I have only given these few words to the question of the practising school, because I felt it to be more important to investigate first the foundation upon which our secondary training must be built up.

§ 12. I can now put my conclusion into the form of theses; if among these I introduce some topics which I have not fully discussed to-night, it will be found, I think, that they readily follow as corollaries to the rest.

A.—1. Training is a particular description of technical or professional education; higher training, or the training of teachers for secondary schools, is a task of the same character as that now controlled by Government in day and residential training colleges—with one difference, that the teachers in the latter are only prepared to instruct *young* children, while the secondary teacher has to contemplate the necessities of education up to a school age of sixteen, or perhaps of eighteen and nineteen.

2. Hence, the secondary teacher should acquire all that the primary teacher acquires, both in scholarship, in theoretical knowledge, and in skill, with the additional requirements imposed by the longer range of school life in his class of school. He cannot venture, on the plea that he is not a primary teacher, to neglect to study younger children, for (1) the secondary school, like the primary, takes children from the beginning of school-life; and (2) we can best obtain professional knowledge

^{*} I may refer again to the *Journal of Education*, as above.

and skill by commencing with the younger age and working upwards.

3. The full consideration of the teacher's equipment should include his attainments in scholarship and culture, but, under present conditions, our secondary training courses have to leave these largely in the hands of others, in order to concentrate their attention upon the theory and practice of education.

4. A student cannot be said to have studied the theory of education who has not been guided to its sources in ethics and psychology. For this, as well as for other reasons, it is desirable that the training should not be conducted in isolation, but should be associated with other institutions of learning, with Universities or University colleges.

5. The study of theory and practice, although they can be contemplated apart, cannot be safely dissociated. Those who expound the theory should also exhibit it in the practice of a school. The student of the philosophy of education should *at the same time* be a student of children in a school.

6. Training in "practice" should introduce the student into the daily life of an active school, giving him the opportunity of observing the development of individual children on the one hand, and of the varied activities of the whole corporate society on the other hand. This condition can only be realized in perfection when those who administer the training also direct the school in which the students do practical work.

7. Such a school can be an ordinary secondary school of reputation, to which a training course for a few students is attached, but for the training of a large number together a practising school is most desirable.

8. One hindrance to efficient higher training lies in the undeveloped condition of the science of education, a novel study to which few teachers have given their attention. Higher training should therefore be associated with effort in experiment and research; those also need the provision of a practising school.

B.—9. Since the certificates of education issued by examining bodies so largely affect the conditions under which training is conducted, it is of importance that these examinations and certificates should be so arranged as to encourage sound training.

10. A certificate obtained by a paper examination, testifying to an acquaintance with theory (apart from practice), has a minimum value, and should only be sought by acting teachers who have had no earlier opportunity of pedagogic study, and who seek to supplement their knowledge by this means.

11. A certificate as to practice obtained by giving one or more isolated lessons to a class of strange children in the presence of an examiner has a minimum value. No certificate of practice is of great worth unless it is attested by those who have conducted the training, and certifies that the student has done practical work during a year or more in a school which is, wholly or in part, employed for the purpose of practice, and that he has given continuous instruction to one or more classes week by week under the direction of experienced teachers.

12. So important, indeed, must we consider this experience in the active life of a school, that it may be a wise arrangement to withhold the final completion of a teacher's certificate until he has spent a year in some ordinary school *after* the close of his year of training. For only those who examine into his daily work, conducted under the ordinary conditions, can fully certify as to his fitness.

13. And, finally, to fix the forms in which training certificates and tests are to be arranged, before we have developed our system of training, is a perversion of the right order of proceeding. If those who train are permitted a free hand in developing forms of training, it is an easy matter for authorities to examine into the work and to award students' certificates. Instead of compelling students and their teachers to follow the footsteps of outside examiners, it is for the examiners to inspect and to pronounce upon the work done in a training course. Our only hope of developing right methods on which to teach our young teachers lies in freedom of action.

Mr. W. BROWN said that there could be no question that training must be practical as well as theoretical, and he contended that the system that obtained in training colleges for elementary teachers should not be made a part of training of teachers for secondary schools. If teachers could be trained *en bloc* in that way it would be an easy matter to train teachers for the whole kingdom. Elementary teachers had, in fact, to get their knowledge and skill at the expense of the children. He did not think that teachers for secondary schools would require a two years' course, assuming that they had previously acquired the requisite knowledge of

the subjects of instruction. In his opinion, given proper material to begin with, a single year's course would suffice for technical training. With regard to the scholarships hitherto awarded by the College of Preceptors, and which were allowed to be held in a school, this arrangement must be regarded as a *pis aller*; and training under such conditions could not compare with that which might be gained at a proper training college. It was satisfactory to know that the Council were now moving in the direction of establishing such a training college, and they would thus be taking the lead in seeing that the training of teachers was put on a proper footing. This work must not be allowed to fall into the hands of the County Councils, who knew nothing whatever about education. It was evident to teachers that a Registration Bill could not be brought in without dealing with this question; and with a properly constituted Educational Council, such as that provided for in the Bill now before Parliament, confidence would be felt that they were under right government—the government of men who understood the question. With regard to the practising school, he thought there should not be more than one student attached to each class. He would suggest that the students of the training college should rather have the opportunity afforded them of visiting schools of different types, than that they should be confined to a single practising school, as he thought they would in that way gain almost as much knowledge of child-life as by teaching in their own practising school.

Madame MICHAELIS regretted that she was not in a position to have a practising school in connexion with her Kindergarten training college. She considered that it was most necessary for young students to see how lessons were given and how a school was conducted, besides practising for themselves. She entirely sympathised with what the lecturer had said with regard to criticism lessons. These lessons were not of such great advantage as they ought to be, and her experience was that students dreaded them more than examinations.

Miss WOODS endorsed the lecturer's views as to the necessity of the practising school being attached to the training college. It was most important to give students opportunities of constant practice in such a school, but it was, she considered, impossible to do so under the present system of a one year's course. She thought that students should already have acquired subject-knowledge before entering the training-college, and that they should also stay two years in order to be able to carry on side by side their theory and practice. With regard to the organization of a training college she considered that not necessarily the most learned men, but men of the noblest and finest character should be placed on the staff. If the staff were restricted to trained teachers, the choice of suitable men would necessarily be very limited, and they might lose the services of the most capable men, who though they had not enjoyed the advantage of technical training, had obtained its equivalent by force of experience, natural insight, and power.

Mr. G. BROWN said the impression he had gained from the paper was that the lecturer had thoroughly grasped the difficulties of the question, and had found it no easy matter to devise a scheme which would meet them. He noticed that the lecturer realized the danger of bringing in too much theory, and he hoped that, whatever move might be made, the main point would be to see that sufficient practice could be obtained. That seemed to him to be the real crux of the question. How was that practice to be obtained without detriment to the pupil and to the student himself? If a training college were established with a practising school attached, for a large number of students to get knowledge and practice, this could hardly fail to be to the detriment of the pupils attending the school. He considered that the only real method of getting over the difficulty was by apprenticeship. Those intending to become secondary teachers should serve in good schools where they might take charge of small forms, and at the same time continue their education. Teachers must pick up their knowledge of teaching by actual practice, and one year's training would never give sufficient experience or knowledge of the child.

Mr. FOSTER WATSON approved the suggestion made by the lecturer of providing training for male teachers in connexion with the University colleges. Our professors of philosophy ought to be able to give effect to a plan of this kind, and would take it in hand if called upon to do so. It was done in Germany, and why should not our professors do the same? The only reason that could be alleged was that there was not sufficient demand for it. If those who intended to become secondary teachers were to make the demand, it would be quite clear to the professors of philosophy that it was worth while to turn their attention to the theory of education. With regard to the lecturer's remarks as to the present means of training for elementary teachers being utilized as far as it went, supplementary provision being made for the different wants, he was of opinion that the supply would have to be different in kind. Secondary teachers did not want to be hampered by Government regulations nor to devote themselves to aims prescribed by a Government department. He disagreed with the lecturer in his view of the slight value of study of the literature and history of education. The lecturer said that in considering any particular educational reformer of the past we should have to consider the age in which he lived. That was true. But we should also consider any method or proposal of that educator in reference to existing conditions. But if they were to have books on education read, not only by teachers but by others interested in education, they must have books that were well written. The history of education should be studied

side by side with the science of ethics and psychology. In the practising school a great deal might be done for the development of the science or observational side. There was much need of a pedagogic encyclopædia, to be made up with records of observation as large and extensive as in the case of law reports and medical cases. A practising school on the basis suggested by the lecturer would lend itself to this important purpose.

The CHAIRMAN said that with regard to the lecturer's remarks as to skill being attained by observation, it seemed to him that the essence of skill was to know how to apply general principles to particular cases, and that we learn skill by practising skill. It was necessary to have certain rudimentary principles, and skill was acquired by applying the principles to practice under experienced guidance. He did not think skill in teaching would be gained by observation. Knowledge was acquired in that way, but he was convinced that in the training of the teacher it was essential for him to be trained to know what to observe and how to observe, and to be capable of drawing some kind of inference from his experience. He thought it would be unwise to attempt to acquire a knowledge of child-nature by individual personal study only. But to imagine that the teacher could gain a knowledge of child nature by simply going through a book on the subject was to err in the opposite direction. The two must go hand in hand. To his mind the one to begin first was something in the nature of a rough practical (not too abstract) statement of the most noticeable features about the mind and the growth of the mind. He thought that one year's training was all too short a time except for the finer wits among teachers. He had found again and again, in his experience in connexion with training colleges, that during a student's last term every week told with marvellous effect, and it seemed that if they could only get one more term, if not another year, during which the student could, with less worry with regard to examinations, quietly observe and think, far better results would be obtained. He would like to correct the popular delusion that those who advocated training professed to be able to train teachers to perfection in one year. What they did was to thoroughly interest them in the problems of education, and help them to acquire a knowledge of the rudiments of child-nature, to show them the character of the problems and how in a measure to solve them. They must in the main gain experience and learn child-nature after they left the college. So much was this recognised in some places, especially in Germany, that the full certificate was not granted until after three years' experience in good schools, and when the teachers were able to show in the presence of skilled teachers that they were thoroughly fit for their work. With regard to criticism lessons, he thought that (especially for women teachers) they were such an ordeal that the individual in question very often did not profit by the experience at the time. But there were, perhaps, forty other students present, and these gained an immense advantage at the sufferer's expense. If, however, the critic could once establish kindly relations between himself and his students in training, the anxiety and nervousness might be reduced to a minimum.

Mr. FINDLAY having replied to the remarks of the various speakers, a vote of thanks to the lecturer concluded the proceedings.

"AN ENGLISH PREPARATORY SCHOOL."

Education, an excellent periodical published at Boston, U.S.A., contains a lively account of the ancient and aristocratic private school at Cheam. It is written by Mr. A. Inkersley, of Brasenose, who is now resident in San Francisco, and was formerly an assistant master there.

An old red-brick manor-house in a quiet village about sixteen miles from London, and a favourite place of residence for professional and business men who go up daily by rail to the metropolis; fine elms, the resting places of many loud-cawing rooks; trim, well-kept lawns, gardens, and conservatories; a cricket-field, carefully mown and rolled, on which many men of world-wide reputation received their earliest instruction in the national game from a Yorkshire professional, whose dialect was so broad and racy of his northern native shire as to be almost unintelligible to a man from the southern counties; a playing-field for the small boys not yet promoted to the dignity and privileges of the first or second eleven; several Eton fives-courts; a covered playground for wet weather; a fine private chapel, approached from house and school by a covered cloister; a gravelled playground for hockey and ball-games; a shop for carpentry and wood-turning; a wide-stretching breezy down, across which one saw, with its flags fluttering in the wind, the grand stand on the Epsom race-course—such are the external details of the school, of the daily life of masters and scholars of which I purpose to give some account.

By a preparatory school in England is not meant a school which prepares young men for admission to the Universities, but one at which boys from the age of nine to fourteen years are got ready for the entrance examinations and for scholarships at the

great public schools, Eton, Harrow, Winchester, &c. The headmaster is the proprietor of the school, and all the profits, after working expenses are paid, go into his pocket. The annual charge for a boy is 750 dols., and to this are to be added music lessons, the cost of books, and some other extras. A master to teach ten boys can be obtained for 750 dols., with board and lodging, or for a rather smaller sum, and, as the food provided is, though good and wholesome, plain, it is easy to see that there is a large margin of profit. We used to calculate that the gross receipts per annum of the head of Cheam School were about 110,000 dols., and that half of this sum was profit.

Cheam School, at the time I knew it, had about 115 boys, many of them bearing very well-known names. Prince Emich of Leiningen, Count Gleichen, a cousin of Queen Victoria, the present Duke of Portland, and several Lords Grosvenor, sons of the Duke of Westminster, were all pupils of this school. Young Viscount Dunlop, who has since become very widely known as the husband of Belle Bilton, was a very quiet unobtrusive boy, who showed no marked capacity in his studies, or skill at the games which are so highly esteemed in an English school of this class. By the death of his father he has succeeded to the family estates, and Belle Bilton is now the Countess of Clancarty.

The teaching staff consisted of nine class-masters, including the head master, two mathematical masters, one French master, one German, and one music and singing master, who was also chapel organist and teacher of the violin. The music master was named —, but was invariably called "Tommy" both by masters and boys. He was very popular, and was a very accomplished man in many ways. Besides being a good performer on the organ, piano, violin, and cello, he was an excellent all-round cricketer, one of the best amateur billiard-players I ever knew, and the cleverest skater among us. Many young noblemen had been pupils of his, and, when they paid a visit to the school from Eton or London, they invariably called on "Tommy" for a chat. All the masters, except the headmaster and the German master, lived in lodgings in the village.

In summer the boys were called at six o'clock in the morning; at half-past six they received religious instruction from the headmaster and the chaplain. At seven the other masters (or most of them) came in, and a lesson was given till a quarter to eight. Then came prayers in the big school-room, at which function the whole establishment, including visitors staying in the house and servants, was present in force. Then breakfast—somewhat overdue, I used to think—in the dining hall, where the headmaster's family and guests sat at the head of the two long tables, and the masters down the sides at intervals, with their newspapers and letters. After breakfast the boys and masters rose from their seats, and the family and their guests filed out. I remember that an old Admiral, who was paying attention to the headmaster's eldest daughter, used to excite our merriment very much as he hobbled out, bumping the person in front of him if the procession for any reason stopped its course for a second or two. He did his duty, however, and made the Head's eldest daughter Lady Somebody-or-other, and all the assistant-masters had to subscribe to a wedding-present.

On leaving the breakfast room, the boys went out into the gravelled playground, which was bounded on two sides by school-buildings and the cloister, on a third by the chapel and garden-wall, while the fourth side was separated by a low wall from the cricket-fields and the broad downs beyond. There the boys stood about, while two or three pitched up balls to another standing with a bat in his hand near one of the buttresses of the cloister leading to the chapel. The boy with the bat hit up catches, and the boy who caught him out went in till he was in like manner caught out; if a master caught the ball, he was at once surrounded by small boys asking to be "tipped in." This went on until ten minutes to nine, when a bell rang for the boys to go in and get their books ready to repeat the lines given to them to be committed to memory: at nine, school began, and three lessons, of one hour each, finished the morning's work. On certain occasions, but not often, a nuisance called a "general muster" was held after morning school. The boys then went out to the field and had cricket practice till 12.45, when one-third of their number went in to wash their hands before dinner; a second batch went in five minutes afterwards, and the senior boys last. At one o'clock dinner was ready, the headmaster and his family being present, and sometimes parents of boys down from "town," and "old boys" from Eton or elsewhere. The school-dinner served the visitors as luncheon. The visitors were frequently very great people indeed; at one dinner we had three princes, and duchesses were by no means "unknown

quantities." One of these great ladies amused us very much by insisting on watching the boys in the swimming bath.

At two o'clock school began again, two lessons occupying the time until four o'clock. On one day in the week a well-known artist, whose works were often hung in the Royal Academy, came to give drawing lessons; this necessitated some changes in the school-work, into which I need not enter here. After school the boys who had been punished with drill, were drilled by the sergeant, an old non-commissioned officer of one of the regiments of the guard, who also supervised the swimming bath. The bath was popular, and many boys swam and dived very well. I have seen seven or nine saucers picked up from the bottom in one dive. Those who did not go to the bath from choice, or to drill from necessity, played cricket, either practising at the net with the professionals, or playing picked sides. Matches between the various classes were common, and went on for perhaps a week on the whole school days, other matches, independent of the class-matches, being played on holidays, *i.e.*, Wednesday and Saturday afternoons. The cricket was very good, for the professional mowed and rolled the "pitches," put up and took away the nets, and coached the boys in batting. The headmaster's son, an assistant in the school, once captain of the Eton team, and pro-captain of the Cambridge University eleven, took great interest in the cricket, and several famous players received their early cricket education there. Among them may be mentioned the Hon. Ivo Bligh, and the three brothers Studd, who all played in the Cambridge University eleven. The Studds were sons of a wealthy indigo-planter, who was said to have been "converted" from a lamentable state of irreligion by the evangelists Moody and Sankey. One of the Studds has since become a missionary in China, and a year or two ago passed through San Francisco, and lectured at the Young Men's Christian Association. In the Eton and Harrow Cricket match of 1882 four old Cheam boys were playing; Staveley and Lord Athlamney, for Harrow, A. H. Studd—a fourth brother—and the Hon. J. C. Knatchbull-Hugessen for Eton.

At a quarter to six the boys began to go in to prepare for tea, in three divisions, and at six came tea. This consisted of bread and butter, with occasional preserves, watercress, and cold meat, with tea. Meals occupied a rather long time, as general notices to the school were usually given out at dinner; and at tea impositions and extra work were handed in to the headmaster. Tea was followed by the chapel-service, at which the headmaster or the chaplain officiated, the organ being played by the music-master.

From seven till eight, preparation of the next day's lessons was made, under the supervision of the assistant-masters. After a light refection, the smaller boys went off to bed, not without a little chaff and much handshaking with the masters to whom they specially attached themselves. The senior boys and the monitors stayed up till nine o'clock, playing about outside if there was light enough. At nine the last bell of the day, the 27th or possibly the 30th, dismissed the senior boys; and the masters, delighted to be rid of boys for an hour or two, adjourned for supper to the masters' "common-room," where they sat during the day when not teaching or "on duty," and read the newspapers, and where those of them who had a taste for natural history kept microscopes, aquaria, and other scientific paraphernalia. The masters were, "except the Frenchman and the German, all graduates of Oxford or Cambridge, and gentlemen of high attainments," to use the language of the school prospectus. The Oxford and Cambridge men used maliciously to point out this clause to the French and German masters, a strict construction implying that *they* were not "gentlemen of high attainments."

Great interest was at one time taken, in the "common room," in the development of frogs from frog-spawn, and there were to be seen on cork rafts on the surface of the water several tiny frogs, gazing with open round eyes upon a new world; while others, less developed, still had the tadpole's tail remaining, and others had not yet put forth their legs at all. But somehow, in an unexplained, perhaps inexplicable manner, very soon after becoming full-blown frogs, they disappeared altogether. Perhaps they thought they had sufficiently demonstrated to us the Darwinian principle of evolution, and went forth to see the world; perhaps, like "those whom the gods love," they died young, and went, as did the heroes of old, to the Elysian fields.

Mr. Inkersley concludes with a description of the football, hockey, and other winter games.

REVIEWS.

A First Lesson in French. By FRANÇOIS GOUIN. Translated by HOWARD SWAN and VICTOR BÉTIS. (Philip.)

There is nothing in the slightest degree novel about what is valuable in Mons. Gouin's method as set forth in this book. To begin teaching a foreign language to a child by taking a very few short sentences of simple meaning, attracting its attention to each word or phrase in turn, and employing frequent repetitions, is sensible and satisfactory. It is also the plan commonly adopted by scores of teachers who have never heard of M. Gouin and his works, and whom he would probably deride for using what he calls the "classical method." At the end of the "first lesson" M. Gouin claims that his pupils can reproduce the following:—

*Je marche vers la porte,
je m'approche de la porte,
je m'approche
et je m'approche encore,
j'arrive à la porte
je m'arrête à la porte.
J'allonge le bras,
je prends le bouton,
je tourne le bouton,
j'ouvre la porte—
je tire la porte :
la porte cède,
la porte tourne sur ses gonds,
la porte tourne encore,
la porte s'ouvre toute grande :
je lâche le bouton.*

We confess we do not see anything remarkable in this, unless it be the awe with which M. Gouin regards the achievement. He has taught them nine-and-twenty words arranged in sixteen phrases (or, at least, he thinks he has) in sixty minutes. We think this is rather too large a number to be accurately remembered at a first sitting, and should prefer to divide them and the time by two or three. But otherwise, as far as the *result* is concerned, we do not see why it should not have been produced by Prendergast's, Hamilton's, Ahn's, Ollendorff's, anybody else's or nobody's "method." M. Gouin thinks otherwise. He begins by repeating the whole string rapidly, and then moralizes as follows:—

Now suppose I were to take the first sentence as a whole—*Je marche vers la porte*—and that I were simply to repeat it to you like that over and over again a hundred times, should I succeed in getting it into your ears and at the tip of your tongues? It is easily done with a parrot. But how irksome it would be for you, and how wearying for me! And then the second sentence would certainly make you forget the first, and the third the second, and so on. We should always have to be beginning over again to jog your memory. It would take me to teach you this single exercise of the door, not an hour, but as many months as it formerly took my mother to teach me the Lord's Prayer in Latin. And just as I used to say this prayer without understanding a word of it, you would recite your French lesson.

Madame Gouin may have had her own reasons (which we trust had no connexion with her infant son's stupidity) for taking "many months" over teaching him the Lord's Prayer in Latin; but, even by the dull means he is here scorning, a boy of average intelligence could certainly be got to know the given French sentences in an hour. But M. Gouin—who by his own showing in a former work is phenomenally lacking by nature in the facility for picking up languages—thinks otherwise:—

No, this is not the way that we must do it. Little Johnny, who can understand and say this exercise in English, didn't learn it in that way; of this I am quite sure.

"Little Johnny" apparently learnt it by watching his teacher repeatedly performing the various actions, using the appropriate phrases each time, and explaining. This is not at all a bad way of beginning with quite a young child who needs to be amused. But when you have five-and-twenty little Johnnies sitting in rows, and the novelty has worn off a bit, we rather doubt whether they would be learning very much while you were genially making an exhibition of yourself. M. Gouin tells us that by his system "the teacher descends towards the pupils"; it certainly does look rather like it. He also believes he "provokes their intellectual activity and draws forth their imagination." Of this, too, we have little doubt; but we fear their "intellectual activity" would be devoted to copying the teacher in a way quite other than M. Gouin intends, and that the "provocation" would not be all on one side. Their imagination would probably be

"drawn forth," but, as often as not, to matters totally unconnected with the learning of French. It is no answer to this to say that the method has succeeded tolerably well with individual sharp youngsters or diligent adults. What method does not?

We have confined our remarks solely to the system as far as it is revealed in this little book, and we do not wish to go beyond it here. We find, however, on looking over it again, that we have not given the author credit for all he claims to to have taught during the hour. It includes a bowing acquaintance with the present indicative of the first conjugation, and the words *très bien* and *merci*. This is how the last feat is accomplished.

There now remains to each of us a duty to perform, and that a most pleasant one. It is my duty to congratulate you upon the courage shown in your unflagging attention to the lesson, and yours to say "thank you" to the friend who has given you this lesson. This "thank you" you shall give in French, for that will double its value. Say now, therefore, with me:—*Thank you... Merci!... Merci!*

All.—*Merci!... Merci!*

T.—The intellect has played a great part in the lesson, and the heart claims its part also, however small on this occasion that part may be. The duty of the school is to let education and instruction go hand in hand. It is particularly the function of language to polish the character, to elevate the soul, to awaken and develop the sentiment of politeness and consideration for others, and to ennoble the thoughts. Each lesson worthy of the name should therefore open with a friendly greeting, and close with a hearty and sincere "thank you," as master and pupil separate. It is for this reason, my dear young friends, that you should learn to say: *Merci!*

All.—*Merci!... merci!*

T.—*Merci bien pour la leçon!*

This seems a trifle elaborate. One would have thought anyone but a system-monger could have obtained this result without all this "splash."

It is somewhat unfortunate for the welcome M. Gouin's "First Lesson" will receive in this country that he should have couched so large a part of it in the form of a dialogue between teacher and pupil, in which the former appears as an amiable but extremely fatuous and garrulous pedant, and the latter as an ingenuous child who fully understands his master's little weaknesses and plays up to them.

It is more unfortunate still that (like the proprietor of Somebody's pills) he should devote so much of his space to crying up the merits of his own system, and crying down others; a little more demonstration and a good deal less rhetoric would be more ingratiating. But what is most unfortunate of all is that Mr. Howard Swan and M. Bétis have not acquired sufficient command over the English tongue—by the "Series" method or otherwise—to translate M. Gouin into respectable literary prose, and that M. Gouin's own attainments have not sufficed to prevent this being obvious to the reader. Here, for instance, is a little specimen of English as it should not be written:—

Tracing and retracing the picture of the exercise, he inoculates to each one in the warmth of his action, his words together with his thought.

And here is a somewhat longer and prettier example of French as it ought never to be translated under any system whatever:—

The classical school imposes a lease of three, six, nine years of persistent labour to those who wish to learn on its process what the humblest nursemaid can give, without work, in less than four seasons. Three years! six years! nine years! But these are periods in which so many obstacles, so many chances, so many accidents may be met with, that out of a hundred persons hardly five would remain in a similar path, or continue in the same direction. And such is the confidence of the classical school in the efficacy of its process that it will never guarantee success, even after the full labour of these lengthy periods! The system of the series fixes definitely for the student, as does nature, the duration of the four seasons—the period of every human evolution—to accomplish its work; and it guarantees success, the number of its efforts being mathematically determined, the amplitude and the number of its steps being rigorously calculated; its work, in fine, following that of nature day by day, equalling and even surpassing it.

If this were brought up to us by a schoolboy as a bit of unseen translation, we might feel tempted to adopt M. Gouin's principle of prompt and vigorous "action." Yet we should certainly feel that the manner was quite good enough for the matter. People who talk about equalling and even surpassing nature by a "new" mode of teaching a language, and who find it useful to

refer in that connexion to the "duration of the four seasons" as "the period of every human evolution," perhaps deserve to be translated by people who think "a school imposes a lease of labour to those who wish to learn on its process." Messrs. Swan, Bétis, and Gouin must make a little more progress with their English before we can admit their claim to have discovered the secret of learning to read, write, and speak all languages.

The New *Corpus Poetarum Latinorum*.

Messrs. Bell have decided to issue Dr. Postgate's *Corpus* in parts, as the progress of the great work is necessarily very slow. The first portion, which now lies before us, contains the fragments of Ennius, Lucretius, Catullus, Virgil, Horace, and Tibullus. The next part, which will appear early in the coming year, is to complete the Augustan period. The text of these is due to Messrs. Lucian, Müller, Munro, Postgate, Nettleship, Gow, and Hiller, respectively. It is unnecessary to criticise the work in detail at present; let it suffice to say that every page bears overwhelming testimony to the erudition, accuracy, and conscientiousness of its editor and his colleagues. No one with any pretensions to classical scholarship can afford to be without it.

SHORT NOTICES.

CLASSICS.

Tales from the Cyropædia. Edited by C. H. Keene, M.A. (Macmillan.)

This little volume, in the "Elementary Classics" series, contains a judicious selection from the first three books, with Xenophon's language modified to meet the requirements of beginners. There are useful notes, and good vocabularies, exercises for re-translation, and all the other helps and persuasions now thought necessary in order to teach a child the rudiments of anything.

Greece in the Age of Pericles. By A. J. Grant. (Murray.)

This is an agreeably written addition to the number of the "University Extension Manuals." Mr. Grant endeavours to make his readers cognisant of "the main forces that helped to mould Greek civilization," and takes much pains to describe in clear and simple language, yet with accuracy, the conditions under which the Periclean Greek lived. The book would make a readable and interesting introduction to the study of Greek history for an adult student, and contrasts very favourably with some of its predecessors in the same series.

Platonis Protagoras. Edited by J. Adam, M.A., and A. M. Adam. (Pitt Press.)

An excellent edition of this dialogue, got up and executed in the best style of the Cambridge printers, with everything needful in the way of running analyses and copious commentary, appendices, and index. Altogether an inviting volume.

T. Macci Plauti Epidicus. Edited by J. H. Gray, M.A. (Pitt Press.)

The brevity and comparative purity of the *Epidicus* recommend it to beginners in Plautus. To such beginners, Mr. Gray has sought to adapt his commentary, and he succeeds fairly. The book bears some traces of the "prentice hand," but it will serve its purpose.

T. Macci Plauti Stichus. Edited by C. M. Fennell, Litt. D. (Pitt Press.)

The editor of Pindar does not shine as a commentator on Plautus, and he gives one a very vivid impression that he does not like Plautus. It matters less in the case of a play like the *Stichus*, which nobody is likely to read, except those who can now walk unaided in the paths of Latin. This particular "text with notes" strikes us as a somewhat perfunctory piece of work.

M. T. Ciceronis Actionis in Verrem Secundæ, Liber V. By W. Cecil Laming, M.A. (Rivington.)

A very nicely printed and unpretentious edition of the fifth part of Cicero's famous composition. The notes will be found sufficient for all ordinary purposes, and possess several really good features, notably the weeding out of any excess of parallel passages. The introduction might have been made more serviceable without much difficulty.

Latin Stories. Edited by A. D. Godley, M.A. (Blackie.)

A little volume of extracts from the classics, intended to serve as material for "sight" translations, in the case of boys who have "only mastered the first rudiments." They will be excellent practice for boys who have got considerably further in their knowledge of Latin: they are far too "stiff" for those of whom Mr. Godley speaks. There are a few useful notes, parallel exercises for translation into Latin, and the needful vocabularies.

Exercises in Unseen Translation in Latin. By W. Welch, M.A., and C. G. Duffield, M.A. (Macmillan.)

A collection of some two hundred extracts, varying in length from one line to fifteen or twenty. All are very elementary and very brief, and are intended to occupy spare quarter-hours of school time which would otherwise be wasted.

A Beginner's Latin Translation Book. By W. A. Walker, B.A. (Relfe.)
A sensible effort to bridge the gulf between the examples in Macmillan's "Shorter Latin Course," and the novel difficulties of "Gradatim," this tiny volume will prove serviceable where "Gradatim" is unknown. Its twenty diminutive pages include twenty-one exercises and a vocabulary, all printed clearly and boldly.

Bell's Classical Translations. (1) *The Tragedies of Sophocles.* (2) Separate Volumes: *Euripides Hippolytus, Supplices, and Alceste*; *Sophocles Philoctetes, Antigone, and Electra*; *Livy, Books II., III., IV.* (Bell.)

The Greek authors are translated by E. P. Coleridge, B.A., the Latin by J. H. Freese, M.A. The renderings show the usual marks of such work, but with this reservation they seem to be fairly accurate. But the power of translating Sophocles and Livy is not given to every man.

SCIENCE.

New Series of Zoological and Botanical Plates. Drawn, coloured, and edited by Heinrich Jung, G. von Koch, and F. Quentell. (Newmann & Co.)

Both the Botanical and the Zoological Series consist of six sets of ten plates each, carefully graded, 40 inches by 30 inches in size, and made suitable for class use by each object being represented on a non-shining dark background. The specimen sent to us illustrates the Common Honey-Bee, and contains nineteen drawings of the whole and parts of the said bee: its clearness and exhaustiveness plead powerfully for the whole series.

Elementary Course of Practical Science, Part I. By H. Gordon, M.A. (Macmillan.)

This is a little primer by a Science demonstrator to the London School Board. It contains useful directions for practical work in measurement of weight and length, barometry, thermometry, evaporation, solubility, &c. The author's preface and introduction are well worth the attention of Science teachers, and the books as the whole may be safely adopted as a first guide to experimental work.

MODERN LANGUAGES.

Key and Supplement to Longmans' German Grammar. By J. Ulrich Ransom, B.A. (Longmans.)

In noticing "Keys" we are naturally spared the task of judging the merits of the works themselves, and so we will confine our remarks to the way in which the present "Key" has been executed. The short sentences and the German extracts occurring in "Longmans' German Grammar" have, as a rule, been correctly translated, but the renderings of the continuous pieces are often awkward, and not invariably correct. Would a German understand it if he were told, *Natürlich gefiel es den Engländern über den Sieg?* There is an Appendix treating of the "History and Development of the (German) Language," which does not fill quite two pages.

Easy Readings in German on Familiar Subjects. By A. R. Lechner. (Rivington.)

"The probable acquaintance of most young people with the subjects of these readings," says the compiler of the present book in his preface, "may render them more interesting, and facilitate their translation into English." With the first part of this remark we cannot quite agree. Young people, like old ones, prefer to read and translate new stories rather than hackneyed historical anecdotes and descriptions. It would also have been preferable if the editor had given original extracts from good German writers, instead of free adaptations from English sources. We should then certainly not have read a passage like the following, with reference to Schiller's magnificent poem, "Die unüberwindliche Flotte":—"Schiller hat darüber [*i.e.*, on the Armada] ein unterhalten-des (*sic*) unten teilweise angeführtes Gedicht geschrieben." The book is very clearly printed in pleasant readable type.

Hauff's Wirthshaus im Spessart. Edited by G. E. Fasnacht. (Macmillan.)

We cannot bestow on the type of this volume the praise we gave to that of the preceding one. The type of the text is very trying to the eyesight, and still more so that of the vocabulary. The notes are far better printed. Few books have been so often edited, of late years, as Hauff's *Märchen*, with notes alone, and with vocabularies alone. M. Fasnacht has combined the two features.

Easy German Dialogues. By F. Lange, Ph.D. (Hachette.)

The principal fault we have to find with Dr. Lange's little book, "which has been composed at the suggestion of a number of friends," is the use of the second person singular in the dialogues instead of the conventional *Sie*. Non-Germans have rarely occasion to use the former familiar mode of address, and its employment in a book of dialogues may cause some embarrassment to those who use it as a guide. Some of the phrases require correction. Thus, "May I ask you for some fruit?" should run in German, *Ich bitte um etwas Obst*, and not *um etwas Frucht*. Several chapters in the little book will be found useful.

Nutt's English-German Conversation Dictionary.

A useful little pocket volume, designed for the traveller rather than the student. Phrases and idioms are given under salient words in them, the compiler being most judicious in his selection of those of most practical use.

Schiller's Song of the Bell, &c. Edited by G. Macdonald, M.A. (Blackie.)

"Blackie's Modern Language Series" is decidedly attractive. The

volume before us is neatly bound, print and paper are good, and the price is low. We cannot say that Mr. Macdonald's notes add much to its value.

French Stories. Edited by Marguerite Ninet. (Blackie.)

This belongs to the same series as the foregoing, and it is easy to speak more warmly of it. Supposing anybody could want a new French Reader, we should certainly direct him to Mlle. Ninet, who has selected interesting and complete short stories, compiled useful vocabulary, rules, and exercises, and furnished sensible notes.

HISTORY AND GEOGRAPHY.

Excelsior Genealogical Table of Lancaster, York, and Tudor Families.

Compiled by W. E. Humphreys. (Bacon.)

A highly praiseworthy production—a clear and well-arranged tabulation of the leading genealogical facts of the period, with an annexe of leading dates. The greatest boon is the showing in different colours of the parts of the table occupied by different families—Plantagenet, York, Neville, Wydeville, Buckingham, De la Pole (where it might have been noted that the Cardinal Archbishop dropped the 'de la'), Dudley, etc.; but even without this the sheet would be of exemplary usefulness. We demur at the omission of the issue of S. Pius's Bull of Excommunication against Elizabeth from the list of notable dates: surely that is as important a turning-point in her history as the death of Mary!

Wall-maps and Hand-books of the World on Mercator's Projection, and Ireland. (W. & A. K. Johnston.)

Both the maps and the hand-books are fully worthy of the firm's high reputation. The books are indeed handy, well printed, well arranged, and absurdly cheap. The maps are characterized by judicious selection and clear printing of names, a pleasing combination of colours, and apparently great strength. In the map of the World the British Empire is shown in the usual red. A few clocks are inserted showing the time o'clock when it is noon at Greenwich. In both maps the mountains are shown in a soft brown shade, and the rivers in an appropriate blue. We know none better.

MATHEMATICS.

Plane Trigonometry. By S. L. Loney. (Cambridge Press.)

This is a thoroughly practical text-book, comprising both the elements of trigonometry and the very numerous applications of De Moivre's Theorem. The proofs of the latter are purely analytical, and are in no case based on the geometrical interpretation of complex quantities.

Professor Felix Klein's famed essay *On Riemann's Theory of Algebraic Functions* has been translated by Miss Hardcastle and is published in a handy volume of 88 pages by Messrs. Macmillan and Bowes of Cambridge. The increasing popularity of the Theory of Functions among mathematical students is a sure guarantee that this translation will be well received.

Arithmetical Test Cards. (John Heywood.)

Mr. Heywood's "Pioneer" cards are done up in neat little packets, each of which is adapted to "Standard," all the way from I. to VI., Course B. They seem to meet the requirements of the Code very excellently, and, as each package contains thirty-six separate cards, no teacher who uses them should find his pupils fail for want of practice with well-selected examples. Answers are given on separate cards.

Blackie's *Combined Standard Arithmetics.*

These are "revised editions" of booklets that "met a felt want," and have been favourably received. The series is intended for "Course S," *i.e.*, for elementary schools with a small average attendance, and the peculiarity of it is that each little volume contains the work for two or three Standards.

"Junior Local" *Arithmetic.* (Simpkin.)

The name is, perhaps, enough. The book consists almost entirely of examples, with which are the papers set at the above Examinations during the past dozen years; to these latter answers are not given.

MISCELLANEOUS.

Drawing Under the New Code. By Alfred de Fresnoy. (Griffith & Farran.)

This admirable book is what it professes to be—a practical guide for the teaching of drawing in elementary schools, by a man who has very evidently experienced all the trials that beset such a task. Mr. de Fresnoy makes it his aim to explain the special requirements of each standard, to point out the proper and most speedy way of meeting those requirements, and to furnish a number of "tips" such as can only be acquired by experience. Nothing is too humble for his notice; his book is a complete compendium of drawing, and all teachers should seek to get possession of it.

The Life and Duties of the Citizen. By I. E. Parrott. (W. H. Allen.)

This little book, which we noticed last month on its appearance, is already in a second edition.

Series of Illustrations of the Flags and Arms of the United Kingdom, of Physical Phenomena, and of Trades. (W. & A. K. Johnston.)

The specimens sent us of these different and diversified series of pictures for school-room decoration and school children's general edification are the *Royal Arms of the United Kingdom* (with careful explanatory matter showing how they have been compounded), of the *Rainbow* (a double one, with a purling stream, Sidney-Cooperish cows, and Alsatian

mountains thrown in), and *Brewing* (eight stages of the process). They all look well and seem durable.

London B.A. Directory, 1893. (Univ. Corr. Coll. Press.)

Papers set at the recent examination, with solutions, hints to intending candidates, and directions as to the course they should pursue.

Progressive Lessons in Needlework. By Catherine Johnson. (Isbister.)

This is an American production, the result of the authoress's experience in the public schools of Brooklyn, Mass. It is simple and well-arranged, and the diagrams are very clear.

Theory and Practice of Navigation. By Lieut. W. H. Barham. (Collins.)

Designed to suit the requirements of the "first stage" in the South Kensington examinations, and also to meet the needs of those who teach the subject under the new Code. We should think it an excellent book to teach from.

Owing to the large amount of space required in order to deal with the Gift books before the holidays, we have been obliged to hold over a large number of reviews and notices.

MR. FROWDE, of the Oxford Press Warehouse, sends us two neat editions of the Bible, quietly and strongly bound, printed on thin, strong paper, and provided with paper boxes to send them away in as presents at Christmastide. The type is wonderfully clear ("pearl" in the smaller, and "ruby" in the larger), and with each is bound up the valuable Oxford "Helps to the Study of the Bible." The same publisher sends us the "Helps" in a separate little shilling volume, with stout cardboard covers, in which form it will be acceptable in many a home and school.

UNIVERSITIES.

(From Our Correspondents.)

OXFORD.

Of course the most exciting events since your last number have been the appointments of the new Master of Balliol and the Regius Professor of Greek, but, as you have probably dealt elsewhere with the subject, no further comment is needed here. During the month two elections to Fellowships have been made, one after an examination. All Souls have chosen Mr. Robertson of Hertford, who, besides winning the Stanhope Historical Essay Prize, also secured a first in *Literæ Humaniores* and in Modern History. He has before now made his mark as an effective speaker at the Union, and, shortly after his election, in the debate on Women's Higher Education his speech in defence of the ladies was the best thing of the evening. Strange to say, although Hertford, by virtue of its rich scholarships (many being of £100 for five years), attracts a large proportion of promising men, and possesses in addition one of the ablest teaching staffs in Oxford, this is the first instance of a Hertford man being elected as Fellow at another College. The event was duly celebrated, and the Junior Common Room entertained the Senior Common Room at a very successful dinner.

At St. John's, Mr. C. S. Adamson, M.A., has been appointed an Official Fellow, being already a Senior Scholar of the College: this gentleman has accomplished a record which of late years has been certainly rare, and in fact regarded as almost impossible, by obtaining first classes in Classical and Mathematical Mods. and first classes in the Final Schools of *Literæ Humaniores* and Mathematics. With the vastly increased work in the Final Schools, this achievement is really a far greater one than the "Double First" was in the old days. The examination for the Fellowship in Biology at Merton has also taken place, but the result will not be known for some time; the candidates were, without almost an exception, men of great ability, and included no less important a personage than a F.R.S. Many find in this fact a proof that of late years the Colleges have not acknowledged the merits of the Biologists. Indeed it is said that this particular Fellowship has been due to the untiring advocacy of Professor Ray Lankester.

While dealing with the subject of Natural Science it may be mentioned that the Demonstrators at the Museum have petitioned the University for some official acknowledgment of their position. In the memorial which was published they pointed out that they hold their offices on very insecure terms, being liable to summary dismissal at the will of the Professor. As their hours of work are long, their vacations short, their salaries small, and their position one of great responsibility, it will be seen that they have considerable claim in demanding some sort of official recognition: whether it will be possible to make them servants of the University rather than of the Professors it is rather hard to say, but the signatories to the petition include men of known and tried merit, and not at all of the class of "struggle-for-lifers," if we may borrow a phrase of one of the Professors which seems directly or indirectly intended to apply to them.

At the beginning of the month the first batch of scholarship examinations was held, the combination being New College, Magdalen, and Corpus. The field was comparatively small, but distinctly good: as usual, St. Paul's figures largely in the list of successful schools. On the 23rd the Balliol scholarship examination began, and Trinity and Wadham follow suit at the end of the month. In fact, from now till the vacation on December 11th examinations are the order of the day: the Hertford

commences on November 30th, the Craven and Ireland on December 7th. Then there are the Tylorian scholarships (also on November 30th), which this year are to be awarded in German and Italian, with a prize for proficiency in Russian; and besides, on December 4th, Pass Mods. and the various groups of the Pass Final Schools demand their white-tied victims.

On December 11th the Colleges "go down," and considerable indignation has been expressed at the shortness of the vacation, which will compel us to return to Oxford early in January: the consequent lengthening of the Easter vacation is said to be in the interest of the "touring Don," but he is but a small fraction of the general body of graduates, and the latter, and even more the festivity-loving undergraduate, would much prefer to have an extra week or fortnight at Christmas. The weeks before Easter, as we all know, are not very exciting, except for the golfer.

Sir William Markby has resigned the Curatorship of the University Chest, and Mr. Raleigh, of All Souls', has been chosen to fill his place. The Vice-Chancellor and the Proctors have been very happy in their nomination, and the University must think itself unusually fortunate in securing the services of Mr. Raleigh, who combines so many excellent qualities, as, besides being an excellent man of business, he is an able lawyer and one of the best speakers we possess. Magdalen College, at any rate, must bear him considerable gratitude, as it was he who, in the debate about the payment by the University to the College of £7000 for part of the Divinity School used for the purposes of the Bodleian Library—when the Master of Pembroke and Professor Pelham were urging Convocation to reject the proposal—demonstrated that the claims of Magdalen were perfectly legal, demolished Mr. Pelham's arguments, and secured the passing of the proposal by a considerable majority, though no member of Magdalen College voted. The *Oxford Magazine*, in commenting on the nomination of Mr. Raleigh, says, "The impartial observer cannot but feel that the idea of turning the cleverest of poachers into a game-keeper is well worthy of the most sporting of Senior Proctors." The Senior Proctor is, of course, Mr. Hassall of Christ Church.

Somewhat late in the day a collection was made in the different Colleges, in aid of the women and children sufferers of the coal strike. The attitude of the Colleges, to judge by the list of contributions, was very varied, for while New College send about £35, Magdalen are content with a little over £4, and Hertford with less than £2. Oxford, strange to say, is one of the hardest places in which to raise subscriptions.

Those who follow the doings of the Union with interest will be glad to hear that the society this term has shown great vitality. The debates have been well attended, the speeches considerably above the average, and the number of visitors in the galleries large. Since your last number the proposal to admit Zola's works to the library has been lost after a poll of the society; into the merits of the case it is here hardly the place to enter. At the next election to the Presidentship of the Union, Lord Balcarras (Magdalen) is to be returned unopposed; it must be a long time since a Magdalen man held that post, as the College as a whole does not much affect the Union.

CAMBRIDGE.

The new scheme for the rearrangement of the dates of Tripos Examinations has fared ill at the hands of the Senate: the voting power of examiners, past, present, and future, was brought heavily to bear, and Mr. Roberts's long-incubated and much-amended plan was ignominiously rejected. Better luck attended the proposal of the Syndicate to establish examinations in Agricultural Science, and fresh posts will now be ready to receive our unemployed junior Fellows and idle First Class men.

The report of the Local Lectures Syndicate affords instructive reading in this connexion, and shows the effect of competition upon efforts to provide higher education. It seems that the numbers attending the courses in the years 1892-93 were 15,824, as against 18,779 in 1891-92, while the numbers of the courses delivered dropped from 329 to 223. In every point, however, the numbers of the past year are better than those of 1890-91, and the exceptional results of the intermediate year are due to exceptional causes.

The report of Mr. Berry, the secretary of the Syndicate, shows the exact reason, and deserves reproduction. He says: "There can be no doubt that the artificial stimulus given to the work of the Local lectures by the activity of the County Council in the matter of technical education has lost a good deal of its effect, as more permanent institutions for educational purposes are gradually being organized. On the other hand, injurious effects of various kinds have undoubtedly shown themselves. The impression that the County Councils have now 'taken up' education has in some cases relaxed the energies of local committees, and has also rendered it difficult to collect subscriptions. The fact that grants can be obtained from County and Town Councils for a course of science, but not on history or literature, has, in many cases, induced a local committee to choose a subject not desired by the majority of the usual audience, or by the more serious students." There is one thing pretty certain, that the strong position of the Local Examination and Lectures Syndicate will prevent their pandering to the demand of the masses for cheap knowledge that pays, in the place of education which cannot produce a direct, tangible, and pecuniary result.

The results of the Final examination for the Indian Civil Service appear fairly satisfactory, the first three placed in the list being taken by men who in the open competition stood 19th, 13th, and 32nd, respectively. Seven candidates were plucked—out of eight—in the riding

examinations: a curious thing in a University which can boast an unprohibited race-meeting, a pack of harriers, a drag, and livery-stable keepers *ad lib.*, ready to furnish "screws" of every kind and quality.

A fire at the Pitt Press threw the town into a great state of excitement on November 8th: the Registry with plenty of willing assistants succeeded in removing all the records of the University to the hospitable shelter of Pembroke over the way. It is said that special care was exhibited in the removal of some packing cases, supposed to contain articles of priceless worth. The cases when opened were found to be filled with fire-extinguishing hand-grenades.

The contribution to be paid by the Colleges to the funds of the University is fixed at £18,058 for this year; fees for examinations and degrees will bring in £21,000, capitation fees will be another £11,000, giving the University, in round figures, £50,000 from these sources alone. When the Colleges can show a taxable income of £225,000 a year and a net income of £200,000, quite apart from Trust funds, it strikes one as unfair that the average student has to pay more for education here than he would elsewhere for the same commodity. Taking one college alone, the gross income of the foundation, if divided, would give each undergraduate £150 a year; but, in spite of this, everything has to be paid for by the men at full market rates, £100 a year being a fair estimate of the amount payable by an average undergraduate for the purely educational advantages he receives. When fees can no longer be extracted from him, or a profit made out of his necessary food, he is, as a Master of Arts, cut adrift without the right to dine in his College Hall or to have rooms in the College buildings. Too long have things here been looked at with the eyes of Dons, and through the spectacles of Deans.

The proposed regulations for the new scholarships founded under the will of Mr. John Stewart, of Rannoch, have been published. The income of the Stewart bequest is at present £456, and will eventually be increased when a charge of £50 per annum falls in. Eighteen scholarships of £25 per annum each are to be established, six each in Classics, Hebrew, and Sacred Music. Two scholarships will be given in each subject annually; the tenure is to be for three years; candidates from Wiltshire, Somerset, and Gloucester are to be preferred; the limit of age is twenty-one; candidates need not be members of the University at the time of the examination, and successful candidates may be permitted to defer residence for a year.

The appointment of Mr. M. R. James, of King's College, to succeed Dr. Middleton as Director of the Fitzwilliam Museum, has given Universal satisfaction. Mr. James, as Sub-director, had acquired experience and popularity.

The fire at the Pitt Press seems to have done little to stir up the Library Syndicate to protect the priceless treasures in their charge. That a fire would destroy the library in half-an-hour is the opinion of one of our greatest fire experts. There are such effective means of suppressing fires by scientific means that it is surprising nothing has yet been done. The objection to many of the plans—that they are fraught with danger to human life—would not be operative in this case, where the chief risk is during the hours when the building is unoccupied. The library is perhaps the worst managed department in the University; valuable books are lost to us simply because proper claims are not made for them under the Copyright Acts, while valuable room is taken up by trashy novels and obsolete editions of comparatively worthless books. The arrangement of the books and the accommodation for readers would disgrace a parish free library, and the regulations have been so framed as to practically exclude the undergraduate.

We have received the report of the Extension Society's work referred to above. About two hundred and twenty courses of lectures and classes have been given at nearly two hundred places, varying in size from large towns like Leicester and Newcastle-on-Tyne to small villages of a few hundred inhabitants in Cambridgeshire or Kent. The aggregate of the average number of students attending the courses was nearly sixteen thousand, of whom nearly half attended, in addition, the conversational class held before or after the lecture, and intended for the more earnest students. The average number of weekly papers written by students was about two thousand six hundred, and more than one thousand seven hundred passed the examination held at the end of the various courses. The lectures covered a wide range of subjects of general interest in various departments of science, history, literature, and art. The most important event of the year has been the foundation of the University Extension and Technical College at Exeter, referred to above. The College has a technical department and a literary and historical side. The city of Norwich has during the year adopted the scheme of affiliation to the University, whereby students who go through a certain course of lectures at Norwich can obtain a degree at Cambridge after two years' residence, instead of the usual three years. Another notable feature of the year's work was the Summer Meeting, held during the month of August, and attended by about six hundred and fifty students, all qualified by some previous study in their own centres for the more advanced work provided at Cambridge.

LONDON.

A Colonial Intermediate Arts Pass-List was posted early in November. Five candidates have passed, viz., two in Jamaica, one at Halifax, N.S., one in Mauritius, and one at Brisbane.

Much later in the month the B.A., B.Sc., and M.B. Pass-Lists were published. At the B.A. Examination the number of candidates is said to have been less than that of last year (367 against 395), and the number and proportion of the passes very considerably less (154, or 42 per cent., against 241, or 61 per cent.). The falling-off is most marked in the case of the women candidates, the numbers present this year being 74, and the passes only 32 (43.2 per cent.); while last year the number present was 113, and the passes were 81 (nearly 72 per cent.). Of the total of passes only 35 (including 5 women) are in the first division.

The B.Sc. report tells a somewhat similar tale. The total number present was 146 (11 less than last year), and the passes are only 65 (44.5 per cent.), against 80 (or 51 per cent.) last year. The women candidates numbered 24 (1 less than last year), and the passes are 13 (54.1 per cent.), against 12 (48 per cent.) last year. Only 14 names, including that of one woman, appear in the first division.

At the M.B. Examination 93 candidates, including 7 women, appeared, and 58 (62.3 per cent.), including only 2 women, have passed.

MEETING OF THE COUNCIL OF THE COLLEGE OF PRECEPTORS.

A meeting of the Council took place at the College, Bloomsbury Square, on the 18th of October. Present—Mr. J. Stewart, Vice-President, in the Chair; Rev. R. Alliot, Miss Bailey, Mr. Barlet, Mr. Baumann, Mr. Bidlake, Mr. Brown, Dr. Buchheim, Mr. Charles, Mr. Chettle, Rev. Dr. Conder, Rev. Canon Daniel, Dr. Dillon, Mr. Eve, Rev. Dr. Frost, Mr. Harris, Mr. Milne, Mr. Pinches, Mr. Reynolds, Mr. Robinson, and Rev. Dr. Scott.

The minutes of the last meeting were read and confirmed.

The Secretary reported that the number of entries for the Christmas Examination for Certificates exceeded by about 200 the number at the last Christmas Examination.

Saturday, the 20th of January, was fixed as the date of the next General Meeting of the Members of the College.

It was resolved that the Council should memorialize the Government for the appointment of a Royal Commission of Inquiry on Secondary Education.

The following persons were elected members of the College:—

Miss C. Finlayson, A.C.P., Polytechnic Girls' School, Langham Place, W.

Mr. J. Grant, Bootle College, Bootle, near Liverpool.

Mr. E. March, Bussage House School, Stroud, Gloucester.

Mr. H. E. Spillan, A.C.P., 5 Belitha Villas, Barnsbury Park, N.

The following books had been presented to the library since the last meeting:—

BELL & SONS, G.—Barnett's Shakespeare's Julius Caesar; Deighton's Lamb's Essays of Elia, and Massinger's New Way to Pay Old Debts; Keene's Byron's Child Harold; Ryland's Johnson's Life of Addison.

CAMBRIDGE UNIVERSITY PRESS.—Adam's Plato's Protagoras; Fennell's Plautus' Stichus; Gray's Plautus' Epidicus; Loney's Plane Trigonometry; Wood's Palaeontology.

CLIVE & CO., W. B.—Wells's Text-Book of Biology, Part II.

MACMILLAN & CO.—Mukhopadhyay's Geometry of Conics; Willoughby's Public Health and Demography.

PHILIP & SON, G.—Philip's Graphic Globe.

WARNE & CO., F.—Sanderson's History of England and the British Empire.

Calendars of St. Thomas's Hospital, Royal College of Surgeons of England, City of London College, University Correspondence College, University College, London, and University College, Nottingham.

MATHEMATICS.

12113. (J. GRIFFITHS, M.A.)—Prove, *geometrically*, that the pedal triangles with respect to a given triangle ABC of a pair of points inverse to each other with regard to the circumcircle ABC are similar. [This theorem is of importance in the geometry of the triangle and circle.]

Solution by Profs. SCHOUTE, MUKHOPADHYAY, and others.

In the circles described on the diameters AP, AP', the chords EF, E'F' subtend the same angle A. This gives the relation

$$EF : E'F' = AP : AP'.$$

Moreover, the relation

$$MP \cdot MP' = MA^2$$

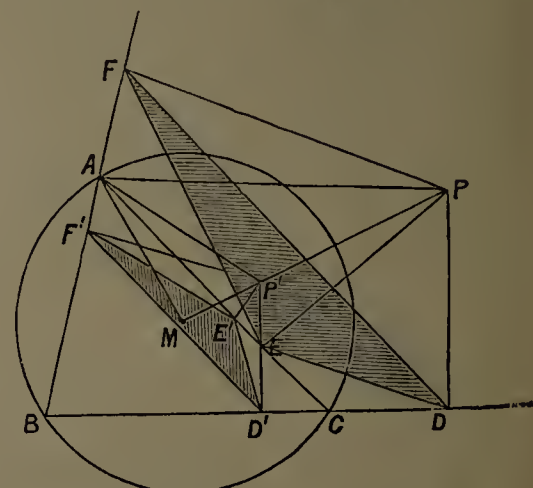
proves that the triangles AMP, P'MA are similar, and affords the relation

$$AP : AP' = PM : AM.$$

So we find

$$EF : E'F' = FD : F'D' = DE : D'E' = PM : R,$$

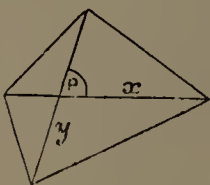
where R stands for the circumradius, &c. [The rest in Volume.]



12048. (R. F. DAVIS, M.A.)—Given the sides of a convex quadrilateral, prove that its area is greatest when the rectangle contained by its diagonals is greatest.

Solution by R. CHARTRES; Prof. DROZ-FARNY; and others.

(1) $xy \sin \theta = 2 \text{ area}$; and (2) $xy \cos \theta = \text{constant}$, the sides being given (NIXON'S *Trigonometry*, p. 276); hence, when area = maximum, $\{(1)^2 + (2)^2\}^{\frac{1}{2}}$, or $xy = \text{maximum}$. [The rest in Volume.]



12024. (Professor DUPORCQ.)—Soient A, B, C, et D quatre points fixes d'un cercle O, P un point quelconque du plan, Q et R les points où les droites PC et PD coupent le cercle O. Trouver le lieu du second point d'intersection des cercles PQB et PRA quand le point P varie d'une manière quelconque.

Solution by J. M. STOOPS, B.A.; GERTRUDE POOLE, B.A.; and others.

S is the second point of intersection of the circles ARP, BQP. Join S to A, B, P; then

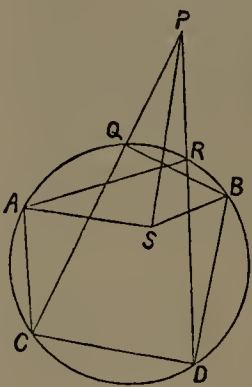
$$\angle ASP = \angle ARP = \angle ACD,$$

$$\angle BSP = \angle BQP = \angle BDC,$$

$$\angle ASB = \angle ACD + \angle BDC,$$

hence the locus of S is an arc described on AB as chord, containing an angle

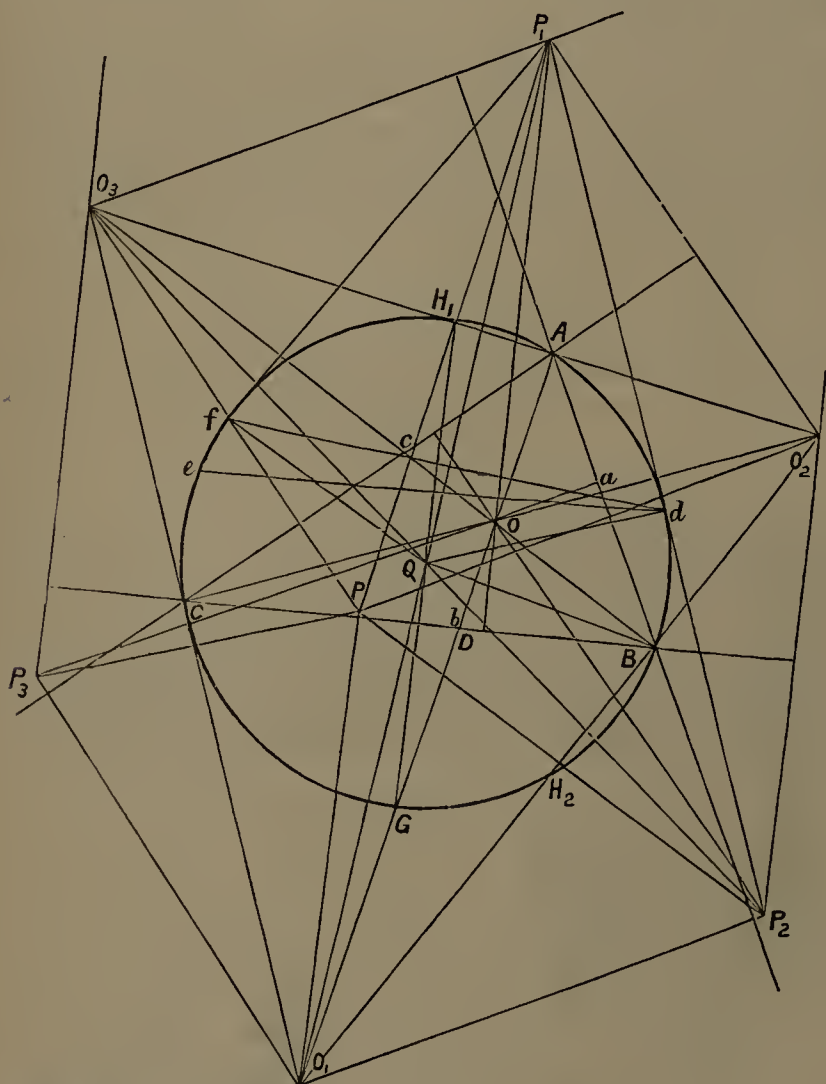
$$= \angle ACD + \angle BDC.$$



12008. (EDITOR.)—Circles are drawn through the angles of a triangle, through the three escribed centres, and through the inscribed and each two of the escribed centres; show that the radical axes of these circles will meet the sides of the triangle at the points where they are cut by the bisectors of its angles.

Solution by M. BRIERLEY; R. KNOWLES, B.A.; and others.

Let the figure be drawn as in the margin, O_1, O_2, O_3 being the centres of the escribed circles, Q, P, P_1, P_2, P_3 the centres of the other circles, and a, b, c the points where the bisectors meet the sides of the triangle.



[The rest in Volume.]

12006. (Professor HAIN.)—Les droites joignant les sommets d'un triangle équilatéral ABC à un même point D reçoivent la circonférence ABC aux points A', B', C'. Démontrer que

$$AD \cdot AA' + BD \cdot BB' + CD \cdot CC' = 2AB^2.$$

Solution by Profs. RAMAIIYAUGA, DROZ-FARNY, and others.

Take the centre O, and draw the diameter E'DOE. Join OB. Now

$$AD \cdot AA' + BD \cdot BB' + CD \cdot CC'$$

$$= AD^2 + BD^2 + CD^2 + 3AD \cdot DA'$$

$$= AG^2 + BG^2 + CG^2 + 3DG^2 + 3DE \cdot DE'$$

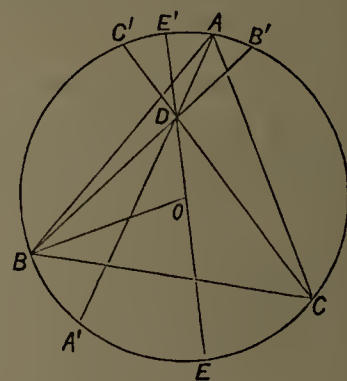
(where G is the centroid)

$$= AO^2 + BO^2 + CO^2 + 3DO^2$$

$$+ 3(OE^2 - OD^2)$$

$$= 6BO^2 = 2AB^2,$$

as G and O coincide for the equilateral triangle.



QUESTIONS FOR SOLUTION.

12145. (Professor SYLVESTER, F.R.S.)—Ascertain how many hypercartesians whose four collinear foci are given can be drawn through a given point, and, if only two, whether they cut each other orthogonally. [See Solution of Quest. 9024, Vols. XLVI., p. 140; XLVIII., p. 75.]

12146. (Professor HAUGHTON, F.R.S.)—On April 17th, 1885, two Quay-porters, each weighing, in his clothes, 150 lbs., carried on their shoulders 60 tons of cement (in 2 cwt. bags) from a schooner lying at the quay of New Ross, Co. Wexford, a horizontal distance of 55 ft., ascending on each journey $6\frac{1}{2}$ ft.; find (1) the work done in foot-tons, and (2) how much this work would heat a gallon of water.

12147. (Professor SCHOUTE.)—Given m surfaces of the order n , find the locus or the number of the lines that intersect the surfaces in m sets of n points belonging to the same involution in the seven cases

$$(m, n) = (3, 2), (3, 3), (3, 4), (4, 2), (4, 3), (5, 2), (6, 2).$$

12148. (Professor CAYLEY, F.R.S.)—Trace the curves defined by the equations given in the solution of Question 2110. [See Vol. VII., p. 17.]

12149. (Professor CLIFFORD, F.R.S.)—A triangle ABC has its vertices A, B jointed to two rods AD, BE, which can turn about the fixed points D, E; express the coordinates of the point C in terms of elliptic functions of a single parameter.

12150. (Professor DONALD MCALISTER, M.A.)—A convex inextensible pliable envelope in the form of a surface of revolution with its axis vertical is exposed to water-pressure from within. Prove that at the widest part the tension along the meridians is a maximum or minimum according as it is less or greater than the tension across them.

12151. (Professor GENESE, M.A.)—If from a point P straight lines are drawn in given directions meeting an axis Ox in Q, R, and P is then defined by $OQ = \mu$, $OR = \nu$, discuss the conic-locus

$$a\mu^2 + 2h\mu\nu + 6\nu^2 + 2g\mu + 2f\nu + c = 0.$$

12152. (Professor CHRISTINE LADD, B.Sc.)—Prove that the product of the lengths of the tangents, from the radical centre of three circles, to any pair of circles through the intersections of the given circles, is equal to the product of the lengths of the tangents, from the same point, to any pair of circles tangential to the given circles.

12153. (Professor HUDSON, M.A.)—In a communistic society, in which every one is equally frugal and industrious and devotes an amount (X) of his wealth to production, the wealth produced by each man's labour per unit of time is x times the capital with which he works. If the population increase at the rate of $100p$ per cent. per unit of time, prove that each man's wealth will continually increase as long as X bears a greater ratio to his whole wealth than $p : x$; X, x , p being all supposed to vary continuously.

12154. (Professor CATALAN.)—Si a, b, c sont les longueurs des côtés d'un triangle rectiligne, démontrer qu'on a

$$a^2b(a-b) + b^2c(b-c) + c^2a(c-a) > 0, \quad ab^2(b-a) + bc^2(c-b) + ca^2(a-c) > 0.$$

12155. (Professor ORCHARD, M.A., B.Sc.)—If the Earth's velocity round her axis varied inversely with her velocity round the Sun, how would this affect the (true) weight of objects on her surface?

12156. (Professor CLAYTON, B.A.)—(1) A variable circle touches a given line A, and passes through the centre B of a given circle. If MN be its chord of intersection with the circle, and BX be drawn perpendicular to MN, prove that (1) the locus of X is a cardioid; (2) if the line A be replaced by a circle, all other circumstances being unaltered, the locus of X is of the form $\zeta = A + B \cos \theta$; and (3) if the variable circle touch the circle A, and cut the circle B orthogonally, the locus of X is a bicircular quartic.

12157. (Professor DROZ-FARNY.)—Si de l'orthocentre d'un triangle on abaisse des perpendiculaires sur les bissectrices intérieure et extérieure de l'angle A, la droite qui joint leurs pieds passe par le point milieu du côté BC.

12158. (Professor NEUBERG.)—Sur les côtés d'un triangle ABC on construit des triangles semblables BCA', CAB', ABC'. (1) Les droites AA', BB', CC' sont égales et parallèles aux côtés d'un même triangle

A''B''C''. (2) Dans quels cas les triangles A'B'C', A''B''C'' sont-ils directement semblables ?

12159. (Professor RAMASWAMI AIYAR.)—Any two harmonic polygons of the same kind inscribed in a circle being given, prove that each can be inverted (from either of two centres) so as to be co-Brocardal with the other. In particular any two triangles inscribed in a circle can be inverted so that the Brocard-points of either are the Brocard-points of the inverse of the other.

12160. (Professor ZERR.)—Let AB be the transverse axis of an ellipse, C its centre; describe about the ellipse its auxiliary circle; draw the radii CD, CE of this circle, making angles of 45° with CB, CA respectively. Draw DPP' perpendicular to AB, cutting the ellipse in P, P'; EQQ' perpendicular to AB, cutting the ellipse in Q, Q'. Then will PP'Q'Q be the maximum rectangle inscribed in the ellipse.

12161. (Professor CESÁRO.)—Soient A un sommet d'une ligne cycloïdale, et M un point appartenant à la même boucle. Démontrer que le rayon du cercle directeur, qui passe par le centre de courbure correspondant à M, détermine sur la tangente en ce point un segment égal à l'arc AM.

12162. (Professor BARISIEN.)—On considère une famille de coniques tangentes à une conique fixe Σ , ayant, avec Σ , un foyer commun et passant par le second foyer de Σ . Montrer que toutes ces coniques ont l'axe focal de longueur constante.

12163. (Professor THIRY.)—Chercher le minimum de la bissectrice d'un des angles aigus d'un triangle rectangle dont la hauteur relative à l'hypoténuse est constante.

12164. (Professor MANDART.)—Soient un cercle O, un diamètre fixe AB, et un point M variable sur le cercle. On mène un cercle C passant par le point O et tangent en M à la droite BM. Trouver les lieux géométriques décrits par les extrémités P et Q du diamètre du cercle C, qui est symétrique de AM par rapport à AB.

12165. (EDITOR.)—Solve the equations

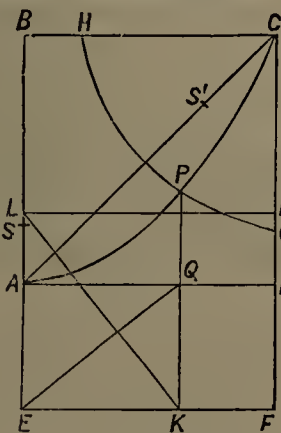
$$\begin{aligned} x^2 + y^2 + x + y &= 530, & xy + x + y &= 230, \\ x^2 + y^2 + y &= a, & xy + \frac{1}{2}x &= b. \end{aligned}$$

12166. (J. C. MALET, F.R.S.)—Prove that (1) a plane curve of order 17 cannot have more than 88 cusps; (2) when it has this number of cusps it can have no other double points; and (3) no unicursal plane curve of order 17 can have more than 22 cusps.

12167. (W. J. DOBBS, B.A.)—A box containing a large number of small shot is compelled to move in vacuo along a fixed horizontal straight line with uniform acceleration f , starting from a fixed point O. As it moves the shot are continually falling out of the box through a small hole. Show that at any instant the shot which have fallen out of the box are arranged along a straight line which is in a fixed direction. Prove also that the centre of mass of the trail of shot divides it in the ratio 1 : 2, and that the path of the centre of mass is a straight line along which it moves with uniform acceleration.

12168. (R. TUCKER, M.A.)—ABCD is a quadrilateral in a circle; K, L, M, N are the vertices of equilateral triangles described externally on BC, CD, DA, AB respectively. BM, DN cut in a ; AK, CN in b ; DK, BL in c , and AL, CM in d ; prove that $abcd$ is circumscribable.

12169. (D. BIDDLE.)—Let ABCD be a square of side = unity. Produce BA, making AE = any value > 1 , and complete the rectangle AEFD. With focus S, on AB, at $\frac{1}{2}AB$ from A, describe the parabola APC; and with focus S', on the diagonal AC, at $2AE$ from A, describe the hyperbola GPH, having AB, AD (produced) as its asymptotes. From the point P, in which the two curves intersect, draw PQ, perpendicular to AD, and produce to K. Join QE, and draw KL at right angles to it, cutting AB in L. Finally draw LM parallel (and equal) to AD. Prove (1) that EL, EK (=AQ) are respectively $AE^{\frac{1}{2}}$, $AE^{\frac{3}{2}}$; (2) that PQ, QK, KE, EL, LM are consecutive terms in a geometrical series; (3) that by a process like that herein set forth, it is possible, if we have the n th and the $(n+3)$ rd terms, to fill in, to any required extent, the remaining terms of any geometrical series; and (4) that the extraction of the cube-root of any value by geometric methods is a very simple matter, provided Euclid's postulate regarding the circle be extended to the other conic sections, as in justice it should be.



12170. (J. GRIFFITHS, M.A.)—(1) If the sides d, e, f and area Δ of the pedal triangle DEF of a point P with reference to a given triangle ABC, satisfy a relation $ld^2 + me^2 + nf^2 = k\Delta$, where l, m, n, k are constants, prove that the locus of P will be a pair of circles inverse to each other with respect to the circumcircle ABC. For example, if w be the Brocard angle of ABC, and $d^2 + e^2 + f^2 = 4\Delta \cot w$, the locus of P will be the Brocard circle of ABC, and its inverse, viz., the Lemoine line. (2) If the sides d, e, f are to each other in the duplicate ratio of the correspond-

ing sides of the given (acute-angled) triangle ABC, i.e., if $d/a^2 = e/b^2 = f/c^2$, prove that P will be one or other of two given inverse points on the line joining the centre of the circumcircle and orthocentre of ABC. In this case the distances x, y, z of P from A, B, C are proportional to the opposite sides a, b, c ; i.e., $x/a = y/b = z/c$. [The pedal triangles of two inverse points are similar to each other.]

12171. (W. J. GREENSTREET, M.A.)—The ends of a uniform heavy rod, of length $4a$, slide on the circumference of a three-cusped hypocycloid, whose plane is vertical, one of the cusps being at highest point of the circumscribing circle whose radius is $3a$; find the length of the isochronous simple pendulum.

12172. (F. R. J. HERVEY.)—Of the three quadrilaterals formed by four lines, let X, Y denote any two, each with a definite sense of description; and let p, q, r, s be the ratios of the sides of Y, taken in order, to the corresponding (that is, collinear) sides of X. Prove that, if we start with that line on which the sides of X and Y are represented with their proper sense by LM, MN respectively, we have

$$(q-p-1)(r-s-1) = 1, \quad qr = ps.$$

12173. (J. J. WALKER, F.R.S.)—Find at what points on an ellipsoid the product of the reciprocal of the square of the semi-diameter into the difference of the squares of the reciprocals of the perpendicular from centre on tangent plane and of that semi-diameter is a maximum.

12174. (Rev. T. C. SIMMONS, M.A.)—Three or more circular wafers of different sizes are fastened at random on the surface of a cylinder. Find the probability that they will all lie (1) on the same generating line, (2) on a generating line drawn at random; also (3) prove that (2) may be reduced to a particular case of (1).

12175. (H. FORTEY, M.A.)—Show that, when the cards are dealt out at whist, the probability that every hand contains one or more cards of each suit is $\cdot 8161049 \dots$, or the odds are about 9 to 2 in favour of the event.

12176. (J. J. BARNIVILLE, M.A.)—Prove that

$$\begin{aligned} \frac{1}{(1 \cdot 2 \cdot 3)^4} + \frac{1}{(5 \cdot 6 \cdot 7)^4} + \frac{1}{(9 \cdot 10 \cdot 11)^4} + \dots &= \frac{1}{768} (\pi^4 - 9\pi^2 + 219\pi - 630), \\ \frac{1}{(3 \cdot 4 \cdot 5 \cdot 6)^2} + \frac{1}{(6 \cdot 7 \cdot 8 \cdot 9)^2} + \dots &= \frac{37\pi^2}{972} - \frac{\pi}{12\sqrt{3}} - \frac{31}{144}. \end{aligned}$$

12177. (S. TEBAY, B.A.)—If a, b, c are conterminous edges of a tetrahedron; α, β, γ the angles contained by bc, ca, ab ; A, B, C the dihedral angles through a, b, c ; A_1, A_2, A_3 the areas of the faces contained by bc, ca, ab ; and V the volume of the tetrahedron; prove that

$$\frac{\sin A}{\sin \alpha} = \frac{\sin B}{\sin \beta} = \frac{\sin C}{\sin \gamma} = \frac{3}{4} \cdot \frac{abc}{A_1 A_2 A_3} V.$$

12178. (R. CHARTRES.)—If a row of diminishing circles, each touching the preceding, be inscribed in a semi-circle, the first of the series being the maximum that can be inscribed; find the relation between the radii, and show that the fourth circle is $\frac{1}{10000}$ of the original circle, and that the radius of the twelfth circle is $1/(131836324)$ of the radius of the semicircle.

12179. (Major P. A. MACMAHON, R.A., F.R.S.)—With reference to the $\Sigma \xi$ quantities composing the product $x_1^{\xi_1} x_2^{\xi_2} \dots x_n^{\xi_n}$, prove that the number of permutations which are such that no quantity with an (even, uneven) suffix is in a place originally occupied by a quantity with an (even, uneven) suffix is given by the coefficient of

$$x_1^{\xi_1} x_2^{\xi_2} \dots x_n^{\xi_n}$$

in the development of the fraction $1/(1 - \Sigma x_\alpha x_\beta)$, wherein $\alpha < \beta$ and $\beta - \alpha$ is not divisible by 2.

12180. (A. E. THOMAS, M.A.)—Find a general value for x making $(x+a^2)(x+b^2)(x+c^2)$ a perfect square.

12181. (I. ARNOLD.)—Given the difference between the hypotenuse and each leg of a right-angled triangle, to construct the triangle.

NOTICE TO CORRESPONDENTS.

Correspondents should be careful (a) to write each Question and each Solution on a separate paper (otherwise, when used for printing, the Editor has the labour of entirely re-writing such articles); (b) to make their Solutions as short as possible; (c) to send all Questions early in the month, but not to send Solutions till their Questions have been published; (d) to send their latest addresses; (e) to prepay the postage in full; and (f) to send all communications to

W. J. C. MILLER, THE PARAGON, RICHMOND-ON-THAMES.

NOTICE.—Volume LIX. of the "Mathematical Reprint" is nearly ready, and may be had of the Publisher, FRANCIS HODGSON, 89 Farringdon Street, E.C. Price, to Subscribers, 5s.; to Non-Subscribers, 6s. 6d

LONDON MATHEMATICAL SOCIETY.

Thursday, November 9th, 1893.—A. B. Kempe, F.R.S., President, in the chair. The meeting having been made "special," the resolution for the incorporation of the Society was moved by A. B. Basset, F.R.S., seconded by Dr. Larmor, F.R.S., and supported by S. Roberts, F.R.S., and the President, and then carried unanimously.

At the general meeting, after Mr. D. B. Mair, M.A., had been admitted into the Society, the President informed the members present of the decease of W. S. B. Woolhouse, F.R.A.S., since the June meeting, and gave a short sketch of his life and work. He next gave a brief account of Prof. Klein's mathematical work, in connexion with the award of the De Morgan Medal, made at the June meeting of the Council, to that gentleman. In the unavoidable absence of Prof. Klein, the medal was given in charge to Prof. Greenhill, F.R.S., and Dr. Forsyth, F.R.S. These gentlemen having replied to the President's address, the Treasurer was called upon to read his report. The reception of the report was moved by Dr. Forsyth, seconded by Mr. S. Roberts, and supported by Mr. Basset. The Rev. T. R. Terry, M.A., consented to act as auditor. The Scrutators (Prof. W. H. Hudson, M.A., and Rev. T. R. Terry), having taken the ballot, declared the nomination-list of the Council, given in our November issue, to be duly carried.

The following communications were made:—

"Mechanical Solution of the Problem of Tethering a Horse to the Circumference of a Circular Field, so that it may graze over an n th part of it," Prof. L. J. Rogers, M.A. The solution was effected by means of a property of the cycloid.

"The Stability of certain Vortex-Motions," A. E. H. Love, M.A. Messrs. Hill, Basset, Greenhill, and Bryan spoke upon the paper.

"Cyclotomic Quartics," Prof. G. B. Mathews, M.A. Messrs. Greenhill and J. J. Walker took part in the discussion on this communication.

"On the Application of Elliptic Functions to the Curve of Intersection of two Quadrics," J. E. Campbell, M.A.

"Notes on the Theory of Groups of Finite Order," Prof. W. Burnside, F.R.S. The President pointed out that some of the results were discussed by Dr. Cole in the number of the *American Journal of Mathematics* which had just reached this country.

Prof. Hudson showed and explained some mechanical constructions, by his son, R. W. Hudson, for the parabola, hyperbola, cubical parabola, and semi-cubical parabola.

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